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BRITISH PHARMACOPŒIA

1867

BRITISH PHARMACOPŒIA

PUBLISHED UNDER THE DIRECTION OF THE

GENERAL COUNCIL

OF

MEDICAL EDUCATION AND REGISTRATION

OF THE UNITED KINGDOM

Pursuant to the Medical Act, 1858.

1867

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THE GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION OF THE UNITED KINGDOM.

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PREFACE.

By the Medical Act of 1858, section 54, it is enacted 'that the General Council shall cause to be published under their direction a Book containing a list of medicines and compounds, and the manner of preparing them, together with the true weights and measures by which they are to be prepared and mixed, and containing such other matter and things relating thereto as the General Council shall think fit, to be called "British Pharmacopœia;" and the General Council shall cause to be altered, amended, and republished, such Pharmacopœia as often as they shall deem it necessary.'

And by a subsequent Act, the 25th and 26th Victoria, cap. 91, which recites amongst other things that different Pharmacopœias have hitherto been in use in England, Scotland, and Ireland, and that the Pharmacopœia to be published by the General Council is intended to supersede the above-mentioned Pharmacopœias, it is enacted that 'the British Pharmacopœia, when published shall for all purposes be deemed to be substituted throughout Great Britain and Ireland for the several above-mentioned Pharmacopœias, and any Act of Parliament, Order in Council, or custom relating to any such last-mentioned Pharmacopœias shall be deemed, after the publication of the *British* Pharmacopœia, to refer to such Pharmacopœia.'

The present work is produced in compliance with, and under the sanction and authority of these Acts of Parliament. It is intended to afford to the members of the Medical Profession and those engaged in the preparation of medicines throughout the British Empire one uniform standard and guide, whereby the nature and composition of substances to be used in medicine may be ascertained and determined. The Council have endeavoured to include in it all such remedies as the existing state of medical practice seemed to require. Whilst it has been necessary to establish uniformity of strength and composition in medicines which, although bearing the same names, have heretofore differed in these respects, according as they have been used in different parts of the kingdom, care has been taken, as far as possible, to provide for the requirements and to meet the wishes, of all those for whose use the British Pharmacopœia is published.

In preparing the first edition of the work it was necessary to engage the services of Committees in London, Edinburgh, and Dublin, who had to execute the difficult task, which had previously been attempted in vain, of reducing to one standard the processes and descriptions of three different Pharmacopœias, and, what was still more difficult, of reconciling the varying usages in pharmacy and prescriptions of the people of three countries hitherto in these respects separate and independent. But the important work of amalgamation having been effected, and national differences reconciled, in some cases at the cost of mutual concession, it has been thought desirable, in preparing a new edition, to submit the work to a general revision with the view of removing any defects that might be discovered, and of supplying ascertained deficiencies.

In this edition, accordingly, some medicines not included in the former one have been introduced, some names by which medicines have been designated have been changed, some processes have been altered, and descriptions have been modified.

A new arrangement of the matter has been adopted, by which the descriptions hitherto comprised under a separate head of Materia Medica are included in one list with Preparations and Compounds, the whole being arranged in alphabetical order. This plan has already been adopted in several of the foreign Pharmacopœias. It will be found to facilitate reference and to obviate an inconvenience that has been experienced from a portion of the information relating to certain medicines being contained in a different part of the work from that in which the processes for their production are described.

The Pharmacopœia having for its object, not so much the selection as the definition of substances which the physician prescribes, and which are required to be kept at one safe and uniform standard of strength and composition, some remedies may have been retained in it which have ceased to be in general use, and others introduced the value of which, although well attested, has not yet been generally recognised.

The doses of all the more important medicines are now for the first time appended to the other information concerning them, the quantities stated under this head being intended to represent average doses, in ordinary cases, for adults. These doses are indicated in compliance with a generally expressed wish. They are not authoritatively enjoined by the Council, and the practitioner must rely on his own judgment and act on his own responsibility in graduating the doses of any therapeutic agents which he may wish to administer to his patients. Important changes in the strength of medicines, and especially of powerful medicines, are specified in foot-notes.

Pains have been taken to make the descriptions of all the substances referred to in the work sufficiently comprehensive and minute to afford a clear indication of what the medicines of the Pharmacopœia are intended to be, and to enable those who are engaged in their administration to determine the identity and test the purity of such as are met with in commerce. In the descriptions of natural products reference is made to their sources. When they belong to the animal or vegetable kingdoms, the scientific names of the animals or plants yielding them, if known, are given, in addition to the names under which they are used in medicine; and reference is generally made, in the case of plants, to the best authorities for the scientific descriptions of them, and to works in which correct figures may be found. Mineral substances are described with reference to their chemical characters and composition; and generally, in the descriptions of products, whether natural or manufactured, the distinguishing characters and tests are included, where such can be referred to with advantage. There are some medicines for the preparation of which it is essential that precise directions should be given, namely such as can only be obtained by some peculiar process, and with the exact composition of which we are but imperfectly acquainted; processes are also, in most instances, appended to the descriptions of chemical compounds of definite and known composition, which admit of exact definition in other ways. In many of the latter cases, however, it is left optional with the manufacturer to use the processes given, or others by which products may be obtained that will accord with the descriptions and tests given for their identification.

In the previous edition of the British Pharmacopœia chemical symbols were introduced for expressing the composition of bodies of definite chemical constitution. By this method of notation, as generally adopted by chemists, not only is the elementary composition of bodies represented, but also their constitution; chemical *formulæ* being so constructed as to indicate the supposed distribution or arrangement, as well as the proportions of the respective elements. On this point, however, differences of opinion often exist, and the prevailing doctrines are subject to change with the progress of investigation and the extension of knowledge. In relation also to the numbers corresponding to the symbols of the elementary bodies, chemists are not agreed, and there are, in fact, at present, two tables of equivalents, one of which has been long in use and the other more recently introduced. Important changes in these respects are now occurring, and the symbolic notation of the British Pharmacopœia of 1864, although still recognised in several of the schools and various elementary works on chemistry, has ceased to be used by some of the most eminent chemists in this country. It was represented to the Council, on high chemical authority, that under such circumstances, symbolic *formulæ* might with advantage be omitted from the Pharmacopœia, and other means adopted for defining what is known of the composition of the substances referred to. The Council, however, did not think it expedient to relinquish the use of such *formulæ*, or to pronounce, directly or by implication, an opinion upon the comparative merits of the two systems referred to, but determined to represent chemical substances of definite chemical constitution both by the old and also by the new method of notation. In all cases, therefore, where chemical symbols are used, two *formulæ* are given, one according to the old and the other according to the new system. These are distinguished from each other by the use of different types, the *formulæ* according to the old system being printed in the lighter Roman type (Al), and those according to the new system in the heavier Egyptian type (**Al**).

In the use of names to designate medicines, the Council have endeavoured to adopt such as, with a due regard to conciseness, are most explicit and most likely to be understood, while at the same time they do not unnecessarily involve scientific theories that are liable to change, and are not likely when employed in prescriptions to excite the prejudices or the fears of those for whom the medicines may be ordered. Some names have been altered in accordance with these principles, but changes of name have in no case been introduced unless there appeared to be strong grounds for them.

No alteration has been made in the weights and measures which in the edition of 1864, were directed to be used in the preparation of medicines. The grain weight, established by law in this country, is well known and well defined. It has been in use from a very remote period and forms a convenient unit for estimating the weight of many medicines. The avoirdupois ounce and pound, being the weights practically used in the sale of medicines and generally in commercial transactions, were adopted in the edition of 1864, and are still retained in preference to troy weights of the same denominations. It must be admitted that the absence in the present system of any denomination of weight between the grain and the avoirdupois ounce of 437·5 grains, and the fact that the ounce is not a simple multiple of the grain, are grave defects; still it has not been thought desirable to make any change in this respect at present, especially as no practical inconvenience appears to be experienced *in preparing* by means of these weights the medicines ordered in the Pharmacopœia. It is strongly urged upon all medical men to avoid the use of the terms ounce and pound with reference to any other than the avoirdupois or Imperial Standard weight; but it will be optional with the physician *in prescribing* to use the symbols ℈ and ʒ, the former representing 20 and the latter 60 grains, if such should be found to conduce to accuracy or convenience. In the measurement of liquids the Imperial measure is used for the higher denominations, and the fluid-ounce and its subdivisions into fluid drachms and minims for the lower denominations of volume. These measures are convenient, and have become familiar, having been used throughout the United Kingdom for many years.

The Council are not insensible to the advantages that would result from the adoption of one uniform system of weights and measures, to be used alike for all substances and in all countries, and they observe with satisfaction the efforts which have been made for the realisation of this object; but considering the paramount importance of avoiding errors in preparing and dispensing medicines, they cannot recommend that, in such operations, a system should be adopted which has been as yet but little used, and is to a great extent unknown, in this country; and on this account they have not employed the metrical system, even as an alternative, excepting in the processes for volumetric estimations, which are now so arranged that the same solutions may be made and used either with British weights and measures or with those of the metrical system. To facilitate the latter mode of using them, a table is appended to the description of each volumetric solution, in which the quantities to be used are represented in grammes and cubic centimetres, as well as in grains and grain-measures. The tables for shewing the relations existing between the British and the metrical weights and measures have been made more full and comprehensive than they were in the previous edition.

Temperature in all cases, excepting where otherwise stated, is to be determined by Fahrenheit's thermometer, and specific gravities are to be taken at the temperature of 60°.

When a *water-bath* is directed to be used, it is to be understood that this term refers to an apparatus by means of which water or its vapour, at a temperature not exceeding 212°, is applied to the outer surface of a vessel containing the substance to be heated, which substance may thus be subjected to a heat near to, but necessarily below, that of 212°. In the *steam-bath* the vapour of water at a temperature above 212°, but not exceeding 230°, is similarly applied.

The Council think it right to add that the present edition of the Pharmacopœia has been prepared by Professor REDWOOD, of the Pharmaceutical Society, and Mr. WARINGTON, of Apothecaries' Hall, under the direction of a Committee of the Council, consisting of the following Members:—Dr. BURROWS, Dr. APJOHN, Dr. CHRISTISON, Dr. SHARPEY, and Dr. QUAIN, who also acted as Honorary Secretary.

ARTICLES INCLUDED IN THE PRESENT EDITION OF THE BRITISH PHARMACOPŒIA, BUT NOT IN THE PHARMACOPŒIA OF 1864.

(Those printed in italics were included in one or more of the Pharmacopœias of London, Edinburgh, and Dublin.)

Acetum Cantharidis, Lond.

,, *Scillæ, Lond., Edin., Dubl.*

Acidum Carbolicum

Adeps Benzoatus

Ammonii Bromidum

Amygdala amara, Edin.

Atropiæ Sulphas, Lond.

,, Sulphatis, Liquor

Bismuthi Carbonas

Bismuthi et Ammoniæ Citratis, Liquor

Cadmii Iodidum

,, Iodidi, Unguentum

Canellæ Albæ Cortex, Lond., Edin., Dubl.

Cerii Oxalas

Charta Epispastica

Collodium Flexile

Confectio Opii, Lond.

Decoctum Ulmi, Lond.

Emplastrum Cerati Saponis

,, Plumbi Iodidi

Essentia Anisi, Dubl.

,, *Menthæ Piperitæ, Dubl.*

Extractum Lactucæ, Lond.

,, Mezerei Æthereum

,, *Papaveris, Lond., Edin.*

,, *Pareiræ, Lond., Edin.*

,, Physostigmatis

Glycerinum Acidi Carbolici

Glycerinum Acidi Gallici

,, ,, Tannici

,, Amyli

,, Boracis

Infusum Aurantii compositum, Lond.

,, *Gentianæ compositum, Lond.*

Lactuca, Dubl.

Linimentum Potassii Iodidi cum Sapone

,, Sinapis compositum

Liquor Ammoniæ Acetatis, Lond., Edin.

,, *Ammoniæ Citratis, Lond.*

,, Arsenici Hydrochloricus

,, Atropiæ Sulphatis

,, Bismuthi et Ammoniæ Citratis

,, Ferri Perchloridi (same strength as Tinctura Ferri Perchloridi)

,, *Hydrargyri Perchloridi, Lond.*

,, Iodi

,, Lithiæ effervescens

,, Magnesiæ carbonatis

,, *Morphiæ Acetatis, Lond., Dubl.*

,, *Potassæ effervescens, Lond.*, 1836

,, *Sodæ effervescens, Lond.*, 1836

,, *Zinci Chloridi, Dubl.*

Lotio Hydrargyri Flava

,, ,, Nigra

Mistura Ferri Aromatica, Dubl.
,, Sennæ Composita
,, *Spiritus Vini Gallici, Lond.*
Morphiæ Acetas, Lond., Edin., Dubl.
,, *Acetatis, Liquor, Lond., Dubl.*
Oleum Sinapis
,, Theobromæ
Ovi Vitellus, Lond.
Oxymel Scillæ, Lond.
Physostigmatis Faba
,, , Extractum
Pilula Aloes et Ferri, Edin.
,, *Conii Composita, Lond.*
,, *Ipecacuanhæ cum Scilla, Lond.*
,, Quiniæ
Plumbi Iodidum, Lond., Edin., Dubl.
,, Iodidi Emplastrum
,, ,, *Unguentum, Lond., Dubl.*
Pulvis Opii Compositus
Pyrethri Radix, Lond., Edin.
,, , Tinctura
Rhamni Succus, Lond., Edin.
Sodæ Citro-tartras effervescens
,, *Sulphas, Lond., Edin., Dubl.*
Spiritus Ammoniæ Fœtidus, Lond., Edin., Dubl.
Spiritus Vini Gallici, Lond.
,, ,, ,, , *Mistura, Lond.*
Sulphuris Iodidum, Lond., Dubl.
,, *Iodidi, Unguentum, Lond.*
Sumbul Radix
,, , Tinctura
Suppositoria Hydrargyri
,, Plumbi Composita
Syrupus Rhamni, Lond., Edin.
,, Rhei
Tinctura Chloroformi Composita
,, *Cubebæ, Dubl.*
,, *Ferri Acetatis, Dubl.*
,, *Opii Ammoniata, Edin.*
,, Pyrethri
,, *Quassiæ, Edin.*
,, Sumbul
,, Veratri Viridis
,, Zingiberis Fortior
Trochisci Ferri Redacti
,, Ipecacuanhæ
,, Potassæ Chloratis
,, *Sodæ Bicarbonatis, Edin.*
Unguentum Cadmii Iodidi
,, Hydrargyri compositum
,, *Picis Liquidæ, Lond., Edin., Dubl.*
,, *Plumbi Acetatis, Lond.*
,, *Plumbi Iodidi, Lond., Dubl.*
,, Potassæ Sulphuratæ
,, *Sulphuris Iodidi, Lond.*
Vapor Acidi Hydrocyanici
,, Chlori
,, Coniæ
,, Creasoti
,, Iodi
Veratri Viridis Radix
,, ,, Tinctura
Vinum Aurantii
,, Ferri Citratis
,, Quiniæ
,, *Rhei, Dubl., Edin.*

ARTICLES INCLUDED IN THE BRITISH PHARMACOPŒIA OF 1864, BUT OMITTED IN THIS EDITION.

Catechu Nigrum.
Cocculus.
Nitrite of Soda.
Spiritus Pyroxylicus Rectificatus.
Unguentum Cocculi.

ARTICLES THE NAMES OF WHICH HAVE BEEN ALTERED.

Present Names.	Names in the Edition of 1864.
Acaciæ Gummi	Acacia.
Aconiti Folia	Aconitum.
Ammonii Chloridum	Ammoniæ Hydrochloras.
Amygdala Dulcis	Amygdala.
Anethi Fructus	Anethum.
Anthemidis Flores	Anthemis.
Antimonium Nigrum	Antimonii Sulphuretum.
Armoraciæ Radix	Armoracia.
Arnicæ Radix	Arnica.
Belæ Fructus	Bela.
Belladonnæ Folia	Belladonna.
Bismuthi Subnitras	Bismuthum Album.
Buchu Folia	Bucco.
Calcis Phosphas	Calcis Phosphas præcipitata.
Calumbæ Radix	Calumba.
Capsici Fructus	Capsicum.
Carui Fructus	Carui.
Cascarillæ Cortex	Cascarilla.
Cassiæ Pulpa	Cassia.
Cinchonæ Flavæ Cortex	Cinchona Flava.
Cinchonæ Pallidæ Cortex	Cinchona Pallida.
Cinchonæ Rubræ Cortex	Cinchona Rubra.
Cinnamomi Cortex	Cinnamomum.
Colocynthidis Pulpa	Colocynthis.
Conii Folia	Conium.
Coriandri Fructus	Coriandrum.
Cuspariæ Cortex	Cusparia.
Digitalis Folia	Digitalis.
Emplastrum Plumbi	Emplastrum Lithargyri.
Ferri Peroxidum Humidum	Ferri Peroxidum Hydratum.
Ferri Peroxidum Hydratum	Ferri Peroxidum.
Filix Mas	Filix.
Fœniculi Fructus	Fœniculum.
Gentianæ Radix	Gentiana.
Glycyrrhizæ Radix	Glycyrrhiza.
Granati Radicis Cortex	Granati Radix.
Hæmatoxyli Lignum	Hæmatoxylum.

Present Names.	Names in the Edition of 1864.
Hemidesmi Radix	Hemidesmus.
Hydrargyri Perchloridum	Hydrargyri Chloridum.
Hydrargyri Subchloridum	Calomelas.
Hyoscyami Folia	Hyoscyamus.
Kamala	Kamela.
Krameriæ Radix	Krameria.
Laurocerasi Folia	Laurocerasus.
Liquor Antimonii Chloridi	Liquor Antimonii Terchloridi.
Liquor Epispasticus	Linimentum Cantharidis.
Liquor Ferri Perchloridi Fortior	Liquor Ferri Perchloridi.
Maticæ Folia	Matica.
Mistura Gentianæ	Infusum Gentianæ Compositum.
Nectandræ Cortex	Nectandra.
Oleum Myristicæ Expressum	Myristicæ Adeps.
Papaveris Capsulæ	Papaver.
Pareiræ Radix	Pareira.
Pilula Hydrargyri Subchloridi Composita	Pilula Calomelanos Composita.
Pilula Saponis Composita	Pilula Opii.
Piper Nigrum	Piper.
Plumbi Oxidum	Lithargyrum.
Podophylli Radix	Podophyllum.
Potassæ Prussias Flava	Ferrocyanide of Potassium.
Pterocarpi Lignum	Pterocarpus.
Pulvis Ipecacuanhæ Compositus	Pulvis Ipecacuanhæ cum Opio.
Pulvis Kino Compositus	Pulvis Kino cum Opio.
Quassiæ Lignum	Quassia.
Quercus Cortex	Quercus.
Rhei Radix	Rheum.
Rhœados Petala	Rhœas.
Rosæ Caninæ Fructus	Rosa Canina.
Rosæ Centifoliæ Petala	Rosa Centifolia.
Rosæ Gallicæ Petala	Rosa Gallica.
Sabinæ Cacumina	Sabina.
Saccharum Purificatum	Saccharum Album.
Sambuci Flores	Sambucus.
Sanguisuga Medicinalis	Sanguisuga Officinalis.
Sanguisuga Officinalis	Sanguisuga Medicinalis.
Sarsæ Radix	Sarsa.
Sassafras Radix	Sassafras.
Scoparii Cacumina	Scoparius.
Senegæ Radix	Senega.
Serpentariæ Radix	Serpentaria.

Present Names.	Names in the Edition of 1864.
Soda Tartarata	Sodæ et Potassæ Tartras.
Tabaci Folia	Tabacum.
Taraxaci Radix	Taraxacum.
Tinctura Camphoræ Composita	Tinctura Camphoræ cum Opio.
Tinctura Conii	Tinctura Conii Fructus.
Ulmi Cortex	Ulmus.
Unguentum Hydrargyri Subchloridi	Unguentum Calomelanos.
Unguentum Iodi	Unguentum Iodi Compositum.
Unguentum Zinci	Unguentum Zinci Oxidi.
Uvæ Ursi Folia	Uva Ursi.
Valerianæ Radix	Valeriana.

PREPARATIONS THE COMPOSITION OF WHICH HAS BEEN ALTERED.*

Acidum Nitricum
Alumen
,, Exsiccatum
Decoctum Aloes compositum
Emplastrum Belladonnæ
Enema Assafœtidæ
Ferri et Quiniæ Citras
Infusum Gentianæ compositum
,, Sennæ
Linimentum Crotonis
,, Iodi
,, Terebinthinæ
Liquor Ammoniæ Acetatis
,, Ferri Perchloridi
Mistura Ferri Composita
Spiritus Cajuputi
,, Juniperi
,, Lavandulæ
,, Menthæ Piperitæ
,, Myristicæ
,, Rosmarini
Suppositoria Acidi Tannici
,, Morphiæ
Trochisci Bismuthi
,, Catechu
Vinum Ferri
,, Opii

SUBSTITUTION.

Pulvis Cinnamomi compositus (Pulvis Aromaticus, *Edin.*) substituted for Pulvis Aromaticus.

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* Minor alterations are not included.

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PHARMACOPŒIA.

ACACIÆ GUMMI.

Gum Acacia.

A gummy exudation from the stems of one or more undetermined species of Acacia, *Linn.*

Characters and Tests.—In spheroidal tears usually from half an inch to an inch in length, nearly colourless, and opaque from numerous minute cracks, or in fragments with shining surfaces; brittle; bland and mucilaginous in taste; insoluble in alcohol, but soluble in water. The aqueous solution forms with subacetate of lead an opaque white jelly. If an aqueous solution of iodine be added to the powder, or to a solution formed with boiling water and cooled, there is no appearance of a violet or blue colour.

Preparations containing Gum Acacia.

Mistura Cretæ	1	part in	34
,, Guaiaci	1	,,	85
Mucilago Acaciæ	1	,,	2½
Pulvis Amygdalæ compositus	1	,,	13
,, Tragacanthæ compositus	1	,,	6
Trochisci, in all			

ACETUM.

Vinegar.

Synonym.—Acetum (*Britannicum*), *Lond.*

An acid liquid, prepared from malt and unmalted grain by the acetous fermentation.

Characters and Tests.—A liquid of a brown colour and peculiar odour. Specific gravity 1·017 to 1·019. 445·4 grains by weight (1 fluid ounce) of it require at least 402 grain-measures of the volumetric solution of soda for their neutralisation, corresponding to 4·6 per cent. of anhydrous acetic acid. If ten minims of solution of chloride of barium be added to a fluid ounce of the vinegar, and the precipitate, if any, be separated by filtration, a further addition of the test will give no precipitate. Sulphuretted hydrogen causes no change of colour.

Dose.—1 to 2 fluid drachms.

Preparation in which Vinegar is used.

Emplastrum Cerati Saponis.

ACETUM CANTHARIDIS.

VINEGAR OF CANTHARIDES.*

Take of

Cantharides in powder . .	2 ounces
Glacial Acetic Acid . . .	2 fluid ounces
Acetic Acid	18 fluid ounces, or a sufficiency

Mix thirteen fluid ounces of the acetic acid with the glacial acetic acid, and digest the cantharides in this mixture for two hours at a temperature of 200°; then transfer the ingredients, after they have cooled, to a percolator, and when the liquid ceases to pass pour five fluid ounces of acetic acid over the residuum in the apparatus. As soon as the percolation is complete, subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient acetic acid to make one pint.

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* This preparation is rather stronger than the Acetum Cantharidis of the London Pharmacopœia. It is less active than the preparations ordered under the same name in the Edinburgh and Dublin Pharmacopœias.

ACETUM SCILLÆ.

VINEGAR OF SQUILL.

Take of

Squill, bruised	2½ ounces
Diluted Acetic Acid	1 pint
Proof Spirit	1½ fluid ounce

Macerate the squill in the acetic acid for seven days, then strain with expression, add the spirit to the strained liquor, and filter.

Dose.—15 to 40 minims.

Preparations in which Vinegar of Squill is used.

Oxymel Scillæ
Syrupus Scillæ

ACIDUM ACETICUM.

ACETIC ACID.*

An acid liquid prepared from wood by destructive distillation and subsequent purification. 100 parts by weight contain 33 parts of the acetic acid $HO,C_4H_3O_3$ or $\mathbf{HC_2H_3O_2}$, corresponding to 28 parts of anhydrous acetic acid, $C_4H_3O_3$ or $\mathbf{C_4H_6O_3}$.

Characters and Tests.—A colourless liquid having a strong acid reaction and a pungent odour. Specific gravity 1·044. 182 grains by weight require for neutralisation 1000 grain-measures of the volumetric solution of soda. It leaves no residue when evaporated, and gives no precipitate with sulphuretted hydrogen, chloride of barium, or nitrate of silver. If a fluid drachm of it mixed with half an ounce of distilled water and half a drachm of pure hydrochloric acid be put into a small flask with a few pieces of granulated zinc, and while the effervescence continues a slip of bibulous paper wetted with solution of subacetate of lead be suspended in the upper part of the flask above the liquid for about five minutes, the paper will not become discoloured.

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* This acid corresponds in strength with the 'Acetic Acid of commerce' or 'Purified Pyroligneous Acid' of the Dublin Pharmacopœia. It is rather weaker than the acid described under the same name in the London Pharmacopœia, and only about one third the strength of that ordered in the Edinburgh Pharmacopœia.

Preparations containing free Acetic Acid.

Acetum	4·6 per cent. anhydrous acetic acid
,, Cantharidis	
,, Scillæ	
Acidum Aceticum glaciale	84 per cent. anhydrous acid
,, Aceticum	28 per cent. do.
,, ,, dilutum	3·6 per cent. do.
Extractum Colchici Aceticum.	
Linimentum Terebinthinæ Aceticum	1 volume acetic acid in 3
Liquor Epispasticus	1 volume acetic acid in 5
Mistura Creasoti	
Oxymel	
,, Scillæ	
Syrupus Scillæ	

Officinal Acetates.

Ammoniæ Acetatis, Liquor
Ferri Acetatis, Tinctura
Morphiæ Acetas
,, Acetatis, Liquor
Plumbi Acetas
,, Subacetatis, Liquor
Plumbi Subacetatis dilutus, Liquor
Potassæ Acetas
Sodæ Acetas
Zinci Acetas

ACIDUM ACETICUM DILUTUM.

Diluted Acetic Acid.

Take of	
Acetic Acid	1 pint
Distilled Water	7 pints

Mix.

Tests.—Specific gravity 1·006. 440 grains by weight (1 fluid ounce) require for neutralisation 313 grain-measures of the volumetric solution of soda, corresponding to 3·63 per cent. of anhydrous acetic acid. One fluid ounce therefore corresponds to 16 grains of anhydrous acid.

Dose.—1 to 2 fluid drachms.

Preparations in which Diluted Acetic Acid is used.

Acetum Scillæ
Liquor Morphiæ Acetatis

ACIDUM ACETICUM GLACIALE.

Glacial Acetic Acid.

Synonym.—Acidum Aceticum, *Edin.*

Concentrated acetic acid, corresponding to at least 84 per cent. of anhydrous acid, $C_4H_3O_3$ or $\mathbf{C_4H_6O_3}$.

Characters and Tests.—It crystallises when cooled to 34°, and remains crystalline until the temperature rises to above 48°. Specific gravity 1·065 to 1·066, and this is increased by adding ten per cent. of water. At the mean temperature of the air it is a colourless liquid, with a pungent acetous odour. 60 grains by weight mixed with a fluid ounce of distilled water require for neutralisation at least 990 grain-measures of the volumetric solution of soda. If a fluid drachm of it mixed with half an ounce of distilled water and half a drachm of pure hydrochloric acid be put into a small flask with a few pieces of granulated zinc, and while the effervescence continues a slip of bibulous paper wetted with solution of subacetate of lead be suspended in the upper part of the flask above the liquid for about five minutes, the paper will not become discoloured.

Preparations in which Glacial Acetic Acid is used.

Acetum Cantharidis | Mistura Creasoti

ACIDUM ARSENIOSUM.

ARSENIOUS ACID.

Synonym.—ARSENICUM ALBUM, *Edin.*

AsO_3 or $\mathbf{As_2O_3}$.

An anhydrous acid, obtained by roasting arsenical ores, and purified by sublimation.

Characters and Tests.—Occurs as a heavy white powder, or in sublimed masses which usually present a stratified appearance caused by the existence of separate layers differing from each other in degrees of opacity. When slowly sublimed in a glass tube it forms minute brilliant and transparent octahedral crystals. It is sparingly soluble in water, and its solution gives with ammonio-nitrate of silver a canary-yellow precipitate insoluble in water, but readily dissolved by ammonia and by nitric acid. Sprinkled on a red-hot coal, it emits an alliaceous odour. It is entirely volatilised at a temperature not exceeding 400°. Four grains of it dissolved in boiling water with eight grains of bicarbonate of soda, discharge the colour of 808 grain-measures of the volumetric solution of iodine.

Dose.—$\frac{1}{60}$ to $\frac{1}{12}$ of a grain, in solution.

Preparations in which Arsenious Acid is used.

Liquor Arsenicalis . . .	4 grains in 1 fluid ounce
,, Arsenici Hydrochloricus	4 grains in 1 fluid ounce

Preparations of Arsenic Acid.

Ferri Arsenias
Sodæ Arsenias
,, Arseniatis, Liquor

ACIDUM BENZOICUM

Benzoic Acid.

$HO,C_{14}H_5O_3$ or $\mathbf{HC_7H_5O_2}$.

A crystalline acid obtained from benzoin, and prepared by sublimation.

Characters and Tests.—In light feathery crystalline plates and needles, which are flexible, nearly colourless, and have an agreeable aromatic odour, resembling that of benzoin. It is sparingly soluble in water, but is readily dissolved by rectified spirit; soluble also in solutions of the caustic alkalies and of lime, and it is precipitated from these on the addition of hydrochloric acid unless the solution be very dilute. It melts at 248°, and boils at 462°. When heated to the last-named temperature, it passes off in vapour leaving only a slight residue.

Dose.—10 to 15 grains.

Preparations.

Ammoniæ Benzoas	
Tinctura Camphoræ composita .	2 grains in 1 fluid ounce
„ Opii Ammoniata . .	9 grains in 1 fluid ounce

ACIDUM CARBOLICUM.

Carbolic Acid.

Synonym.—Phenic Acid.

$HO,C_{12}H_5O$ or $\mathbf{HC_6H_5O}$.

An acid obtained from coal-tar oil by fractional distillation and subsequent purification.

Characters and Tests.—In colourless acicular crystals, which at a temperature of 95° become an oily liquid, having a strong odour and taste, resembling those of creasote, which it also resembles in many of its characters and properties. Its specific gravity is 1·065; boiling point, 370°. The crystals readily absorb moisture on exposure to the air, and they are thus liquefied; the acid, however, is but slightly soluble in water, but it is freely soluble in alcohol, ether, and glycerine. It does not redden blue litmus paper. A slip of deal dipped into it, and afterwards into hydrochloric acid, and then allowed to dry in the air, acquires a greenish-blue colour. It coagulates albumen. It does not affect the plane of polarisation of a ray of polarised light.

Dose.—1 to 3 grains.

Preparation.

Glycerinum Acidi Carbolici .	1 part in 6 by weight

ACIDUM CITRICUM.

Citric Acid.

$3HO,C_{12}H_5O_{11}+2HO$ or $\mathbf{H_3C_6H_5O_7.H_2O}$.

A crystalline acid prepared from lemon-juice, or from the juice of the fruit of Citrus Limetta, *Risso*, the Lime.

It may be obtained by the following process:—

Take of

Lemon-juice	4 pints
Prepared Chalk	$4\frac{1}{2}$ ounces
Sulphuric Acid	$2\frac{1}{2}$ fluid ounces
Distilled Water	a sufficiency

Heat the lemon-juice to its boiling point and add the chalk by degrees till there is no more effervescence. Collect the deposit on a calico filter, and wash it with hot water till the filtered liquor passes from it colourless. Mix the deposit with a pint of distilled water, and gradually add the sulphuric acid previously diluted with a pint and a half of distilled water. Boil gently for half an hour, keeping the mixture constantly stirred. Separate the acid solution by filtration, wash the insoluble matter with a little distilled water, and add the washings to the solution. Concentrate this solution to the density of 1·21, then allow it to cool, and after twenty-four hours decant the liquor from the crystals of sulphate of lime which will have formed; further concentrate the liquor until a film forms on its surface, and set it aside to cool and crystallise. Purify the crystals if necessary by recrystallisation.

Characters and Tests.—In colourless crystals, of which the right rhombic prism is the primary form; very soluble in water, less soluble in rectified spirit, and insoluble in pure ether. The crystals dissolve in three-fourths of their weight of cold, and in half their weight of boiling water. The diluted aqueous solution has an agreeable acid taste. When the solution is made by dissolving thirty-four grains of the acid in one ounce of water, it resembles lemon-juice in strength and in the nature of its acid properties, and, like lemon-juice, it undergoes decomposition and becomes mouldy by keeping. The aqueous solution is not darkened by sulphuretted hydrogen, gives no precipitate when added in excess to solution of acetate of potash, or of chloride of barium, and if sparingly added to cold lime-water it does not render it turbid. The crystals leave no ash when burned with free access of air. Seventy grains of the acid dissolved in distilled water are neutralised by 1000 grain-measures of the volumetric solution of soda.

Dose.—10 to 30 grains.

Preparations containing free Citric Acid.

Succus Limonis | Syrupus Limonis
Vinum Quiniæ

Officinal Citrates.

Ammoniæ Citratis, Liquor
Bismuthi et Ammoniæ Citratis, Liquor
Ferri et Ammoniæ Citras
Ferri et Quiniæ Citras
Lithiæ Citras
Potassæ Citras
Sodæ Citro-tartras effervescens

ACIDUM GALLICUM.

GALLIC ACID.

$3HO,C_{14}H_3O_7+2HO$ or $\mathbf{H_3C_7H_3O_5.H_2O}$.

A crystalline acid prepared from galls.

It may be obtained by the following process:—

Take of

Galls, in coarse powder	1 pound
Distilled water	a sufficiency

Place the powder of galls in a porcelain dish, pour on as much of the water as will convert it into a thick paste, and keep it in this moistened condition for six weeks, at a temperature of between 60° and 70°, adding distilled water from time to time to supply what is lost by evaporation. At the end of that time boil the paste for twenty minutes with forty-five fluid ounces of the water, strain through calico, and when the fluid has cooled collect on a filter the crystalline deposit which has formed, and let it drain. Press it strongly between folds of filtering paper, and redissolve in ten ounces of boiling distilled water. When the fluid has cooled to 80° pour it off from the crystals which have formed, wash these with three ounces of ice-cold distilled water, and dry them, first by filtering paper, and finally at a temperature not exceeding 100°.

By boiling the undissolved portion of the galls with forty-five additional ounces of water, filtering into a dish containing the liquor decanted from the crystals in the preceding process, evaporating to the bulk of ten ounces, and cooling to 80°, an additional quantity of acid may be obtained, which, however, is usually a little darker in colour than the product of the previous crystallisation.

Characters and Tests.—Crystalline, in acicular prisms or silky needles, sometimes nearly white, but generally of a pale fawn-colour. It requires about 100 parts of cold water for its solution, but dissolves in 3 parts of boiling water. Soluble also in rectified spirit. The aqueous solution gives no precipitate with solution of isinglass. It gives a bluish-black precipitate with a persalt of iron. The crystalline acid when dried at 212° loses 9·5 per cent. of its weight. It leaves no residue when burned with free access of air.

Dose.—2 to 10 grains.

Preparation.

Glycerinum Acidi Gallici	1 part in 6 by weight

ACIDUM HYDROCHLORICUM.

Hydrochloric Acid.

Synonym.—Acidum Muriaticum Purum, *Edin.* and *Dubl.*

Hydrochloric acid gas, HCl or $\mathbf{HCl}$, dissolved in water, and forming 31·8 per cent. by weight of the solution.

It may be obtained by the following process:—

Take of

Chloride of Sodium, dried	48 ounces
Sulphuric Acid	44 fluid ounces
Water	36 fluid ounces
Distilled Water	50 fluid ounces

Pour the sulphuric acid slowly into thirty-two ounces of the water, and when the mixture has cooled, add it to the chloride of sodium previously introduced into a flask having the capacity of at least one gallon. Connect the flask by corks and a bent glass tube with a three-necked wash-bottle, furnished with a safety tube, and containing the remaining four ounces of the water; then, applying heat to the flask, conduct the disengaged gas through the wash-bottle into a second bottle containing the distilled water, by means of a bent tube dipping about half an inch below the surface, and let the process be continued until the product measures sixty-six ounces, or the liquid has acquired a specific gravity of 1·16. The bottle containing the distilled water must be kept cool during the whole operation.

Characters and Tests.—A nearly colourless and strongly acid liquid, emitting white vapours having a pungent odour. Specific gravity 1·16. When evaporated to dryness, it leaves no residue. It gives with nitrate of silver a curdy white precipitate, soluble in excess of ammonia, insoluble in nitric acid. 114·8 grains by weight, mixed with half an ounce of distilled water, require for neutralisation 1000 grain-measures of the volumetric solution of soda. When diluted with four times ts volume of distilled water it gives no precipitate with solution of chloride of barium or with sulphuretted hydrogen, and does not tarnish or alter the colour of bright copper foil when boiled with it. If a fluid drachm of it mixed with half an ounce of distilled water be put into a small flask with a few pieces of granulated zinc, and while the effervescence continues a slip of bibulous paper wetted with solution of subacetate of lead be suspended in the upper part of the flask above the liquid for about five minutes, the paper will not become discoloured.

Preparations containing free Hydrochloric Acid.

Acidum Hydrochloricum dilutum
,, Nitro-hydrochloricum dilutum
Liquor Antimonii Chloridi
,, Arsenici Hydrochloricus
,, Morphiæ Hydrochloratis

Officinal Chlorides.

Ammonii Chloridum
Antimonii Chloridi, Liquor
Arsenici Hydrochloricus, Liquor
Calcii Chloridum
Ferri Perchloridi, Liquor
,, ,, , Liquor fortior
Hydrargyri Perchloridum
Hydrargyri Perchloridum Liquor
,, Subchloridum
Morphiæ Hydrochloras
,, Hydrochloratis, Liquor
Sodii Chloridum
Tinctura Ferri Perchloridi
Zinci Chloridum
,, Chloridi, Liquor

ACIDUM HYDROCHLORICUM DILUTUM.

Diluted Hydrochloric Acid.*

Synonym.—Acidum Muriaticum Dilutum, *Edin.*

Take of

Hydrochloric Acid	8 fluid ounces
Distilled Water	a sufficiency

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[*] This agrees in strength with the corresponding acid of the Edinburgh, and is rather stronger than that of the London and Dublin Pharmacopœias.

Dilute the acid with 16 ounces of the water, then add more water, so that at a temperature of 60° it shall measure 26½ fluid ounces.

Or as follows:

Take of

Hydrochloric Acid	3060 grains
Distilled Water	a sufficiency

Weigh the acid in a glass flask the capacity of which, to a mark on the neck, is one pint, then add distilled water until the mixture, at 60° temperature, after it has been shaken, measures a pint.

Tests.—Specific gravity 1·052. 345 grains by weight (6 fluid drachms) require for neutralisation 1000 grain-measures of the volumetric solution of soda, corresponding to 10·58 per cent. of real acid. Six fluid drachms contain one equivalent or 36·5 grains of hydrochloric acid HCl or **HCl**.

Dose.—10 to 30 minims.

Preparations in which Diluted Hydrochloric Acid is used.

Liquor Morphiæ Hydrochloratis
,, Strychniæ

ACIDUM HYDROCYANICUM DILUTUM.

DILUTED HYDROCYANIC ACID.*

Hydrocyanic acid, HC_2N or **HCN**, dissolved in water, and constituting 2 per cent. by weight of the solution.

Take of

Yellow Prussiate of Potash .	2¼ ounces
Sulphuric Acid	1 fluid ounce
Distilled Water	30 fluid ounces, or a sufficiency

Dissolve the prussiate of potash in ten ounces of the water, then add the sulphuric acid, previously diluted with four

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[*] This acid contains rather more than half as much real acid as the *Acidum Hydrocyanicum* of the Edinburgh Pharmacopœia. It corresponds in strength with the *Acidum Hydrocyanicum Dilutum*, London and Dublin.

ounces of the water and cooled. Put the solution into a flask or other suitable apparatus of glass or earthenware, to which are attached a condenser and a receiver arranged for distillation; and having put eight ounces of distilled water into the receiver, and provided efficient means for keeping the condenser and receiver cold, apply heat to the flask, until by slow distillation the liquid in the receiver is increased to seventeen fluid ounces. Add to this three ounces of distilled water, or as much as may be sufficient to bring the acid to the required strength, so that one hundred grains (or 110 minims) of it, precipitated with a solution of nitrate of silver, shall yield ten grains of dry cyanide of silver.

Characters and Tests.—A colourless liquid with a peculiar odour. Specific gravity 0·997. It only slightly and transiently reddens litmus paper. A fluid drachm of it evaporated in a platinum dish leaves no fixed residue. Treated with a minute quantity of a mixed solution of sulphate and persulphate of iron, afterwards with potash, and finally acidulated with hydrochloric acid, it forms Prussian blue. It gives no precipitate with chloride of barium, but with nitrate of silver it gives a white precipitate entirely soluble in boiling concentrated nitric acid. 270 grains of it rendered alkaline by the addition of solution of soda, require 1000 grain-measures of the volumetric solution of nitrate of silver to be added before a permanent precipitate begins to form, which corresponds to two per cent. of the real acid.

Dose.—2 to 8 minims.

Preparation.

Vapor Acidi Hydrocyanici

ACIDUM NITRICUM.

NITRIC ACID.*

An acid prepared from nitrate of potash or nitrate of soda by distillation with sulphuric acid and water, and containing 70 per cent. by weight of the nitric acid, HO,NO_5 or $\mathbf{HNO_3}$, corresponding to 60 per cent. of anhydrous nitric acid, NO_5 or $\mathbf{N_2O_5}$.

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* This acid corresponds in strength with nitric acid of the Lond. Pharm.; it is weaker by one fourth (by weight) than that of the Brit. Pharm. 1864, and the Edin. and Dubl. Pharm.

Characters and Tests.—A colourless liquid, having a specific gravity of 1·42. When exposed to the air it emits an acrid, corrosive vapour. If it be poured over copper filings dense red vapours are immediately formed, but if the acid be mixed with an equal volume of water, and then added to the copper, it gives off a colourless gas, which acquires an orange-red colour as it mixes with the air, and which, if it be introduced into a solution of sulphate of iron, communicates to it a dark purple or brown colour. The boiling point of the acid is 250°. If submitted to distillation the product continues uniform throughout the process. It leaves no residue when evaporated to dryness. Diluted with six times its volume of distilled water it gives no precipitate with chloride of barium or nitrate of silver. 90 grains by weight of it mixed with half an ounce of distilled water require for neutralisation 000 grain-measures of the volumetric solution of soda.

Preparations containing free Nitric Acid.

Acidum Nitricum dilutum
,, Nitro-Hydrochloricum dilutum
Liquor Ferri Pernitratis
,, Hydrargyri Nitratis Acidus
Unguentum Hydrargyri Nitratis

Officinal Nitrates.

rgenti Nitras
ismuthi Subnitras
erri Pernitratis, Liquor
ydrargyri Nitratis Acidus, Liquor
Plumbi Nitras
Potassæ Nitras
Sodæ Nitras

ACIDUM NITRICUM DILUTUM.

DILUTED NITRIC ACID.

Take of

Nitric Acid	6 fluid ounces
Distilled Water	a sufficiency

Dilute the acid with 24 fluid ounces of the water, then add more water, so that at a temperature of 60° it shall measure 31 fluid ounces.

Or as follows:

Take of

Nitric Acid	2400 grains
Distilled Water	a sufficiency

Weigh the acid in a glass flask the capacity of which, to a mark on the neck, is one pint, then add distilled water until the mixture, at 60° temperature, after it has been shaken, measures a pint.

Characters and Tests.—Colourless. Specific gravity, 1·101. 361·3 grains by weight (6 fluid drachms) require for neutralisation 1000 grain-measures of the volumetric solution of soda, corresponding to 14·95 per cent. of anhydrous nitric acid. Six fluid drachms therefore correspond to 54 grains of the anhydrous acid (one equivalent of NO_5, or half an equivalent of $\mathbf{N_2O_5}$).

Dose.—10 to 30 minims.

ACIDUM NITRO-HYDROCHLORICUM DILUTUM.

DILUTED NITRO-HYDROCHLORIC ACID.

Take of

Nitric Acid	3 fluid ounces
Hydrochloric Acid	4 fluid ounces
Distilled Water	25 fluid ounces

Mix the acids, and allow them to remain for twenty-four hours in a bottle the mouth of which is partially closed, then add the water in successive portions, shaking the bottle after each addition, and preserve the mixture in a stoppered bottle.

Characters and Tests.—Colourless. Specific gravity, 1·074. 352·4 grains by weight (6 fluid drachms) require for neutralisation 920 grain-measures of the volumetric solution of soda.

Dose.—5 to 20 minims.

ACIDUM PHOSPHORICUM DILUTUM.

DILUTED PHOSPHORIC ACID.*

Phosphoric acid, $3HO,PO_5$ or $\mathbf{H_3PO_4}$, dissolved in water and corresponding to 10 per cent. by weight of anhydrous phosphoric acid, PO_5 or $\mathbf{P_2O_5}$.

Take of

Phosphorus	413 grains
Nitric Acid	6 fluid ounces
Distilled Water	a sufficiency

Put the nitric acid diluted with eight ounces of distilled water into a tubulated retort connected with a Liebig's condenser, and having added the phosphorus apply a gentle heat so as slowly to distil five fluid ounces of liquid. Return this to the retort, and continue the distillation, occasionally returning the distillate, until the phosphorus has entirely disappeared. Transfer the contents of the retort to a porcelain dish of hard well-enamelled ware, and evaporate the liquid until it is reduced to four fluid ounces; then, transferring it to a platinum vessel, continue the evaporation until it is reduced to about two fluid ounces, and orange-coloured vapours are no longer formed. Mix it now with distilled water until when cold it measures one pint.

Characters and Tests.—A colourless liquid with a sour taste and strongly acid reaction. Specific gravity, 1·08. With ammonio-nitrate of silver it gives a canary-yellow precipitate soluble in ammonia and in diluted nitric acid. Evaporated it leaves a residue which melts at a low red heat, and upon cooling exhibits a glassy appearance. It is not precipitated by sulphuretted hydrogen, chloride of barium, nitrate of silver acidulated with nitric acid, or by the solution of albumen. When mixed with an equal volume of pure sulphuric acid, and then introduced into solution of sulphate of iron, it does not communicate to it a dark colour. Mixed with an equal volume of solution of perchloride of mercury and heated, no precipitate is formed. 355 grains by weight of it poured upon 180 grains of oxide of lead in fine powder leave, by evaporation, a residue (principally phosphate of lead), which after it has been heated to dull redness weighs 215·5 grains. Six fluid drachms therefore correspond to 35·5 grains of anhydrous phosphoric acid (half an equivalent of PO_5, or a quarter of an equivalent of $\mathbf{P_2O_5}$).

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* This acid is stronger than the acid bearing the same name in the Lond. Pharm., in the proportion of 10 to 8·7.

Dose.—10 to 30 minims.

Preparation containing free Phosphoric Acid.

Syrupus Ferri Phosphatis

Officinal Phosphates.

Ammoniæ Phosphas
Calcis Phosphas
Ferri Phosphas
Os Ustum
Sodæ Phosphas

ACIDUM SULPHURICUM.

Sulphuric Acid.

An acid produced by the combustion of sulphur and the oxidation of the resulting sulphurous acid by means of nitrous vapours. It contains 96·8 per cent. by weight of the sulphuric acid, HO,SO_3 or $\mathbf{H_2SO_4}$, and corresponds to 79 per cent. of anhydrous sulphuric acid, SO_3 or $\mathbf{SO_3}$.

Characters and Tests.—A colourless liquid of oily appearance, intensely acid and corrosive. Specific gravity 1·843. It evolves much heat on the addition of water, and when thus diluted gives a copious precipitate with chloride of barium.

50·6 grains by weight, mixed with an ounce of distilled water, require for neutralisation 1000 grain-measures of the volumetric solution of soda. Evaporated in a platinum dish it leaves little or no residue. When a solution of sulphate of iron is carefully poured over its surface, there is no purple colour developed where the two liquids unite. Diluted with six times its volume of distilled water it gives no precipitate with sulphuretted hydrogen.

Preparations containing free Sulphuric Acid.

Acidum Sulphuricum aromaticum
Acidum Sulphuricum dilutum
Infusum Rosæ acidum

Officinal Sulphates.

Alumen
,, exsiccatum
Atropiæ Sulphas
Beberiæ Sulphas
Cupri Sulphas
Ferri Persulphatis, Liquor
,, Sulphas
,, ,, exsiccata
Ferri Sulphas granulata
Hydrargyri Sulphas
Magnesiæ Sulphas
Potassæ Sulphas
Quiniæ Sulphas
Sodæ Sulphas
Zinci Sulphas

ACIDUM SULPHURICUM AROMATICUM.

Aromatic Sulphuric Acid.

Take of

Sulphuric Acid . . .	3 fluid ounces, or 2419 grains by weight
Rectified Spirit . . .	2 pints
Cinnamon Bark, in coarse powder	2 ounces
Ginger, in coarse powder . .	$1\frac{1}{4}$ ounce

Mix the sulphuric acid gradually with the spirit, add the cinnamon and ginger, macerate for seven days, agitating frequently, then filter.

Tests.—Specific gravity 0·927. 304·2 grains by weight (6 fluid drachms) require for neutralisation 830 grain-measures of the volumetric solution of soda, corresponding to 10·91 per cent. of anhydrous sulphuric acid. Six fluid drachms therefore correspond to 33·2 grains of anhydrous acid.

Dose.—5 to 30 minims.

ACIDUM SULPHURICUM DILUTUM.

DILUTED SULPHURIC ACID.

Take of

Sulphuric Acid	7 fluid ounces
Distilled Water	a sufficiency

Dilute the acid with 77 fluid ounces of the water, and when the mixture has cooled to 60° add more water, so that it shall measure 83½ fluid ounces.

Or as follows:—

Take of

Sulphuric Acid	1350 grains
Distilled Water	a sufficiency

Weigh the acid in a glass flask the capacity of which, to a mark on the neck, is one pint, then gradually add distilled water until the mixture, after it has been shaken and cooled to 60°, measures a pint.

Tests.—Specific gravity 1·094. 359 grains by weight (6 fluid drachms) of it require for neutralisation 1000 grain-measures of the volumetric solution of soda, corresponding to 11·14 per cent. of anhydrous sulphuric acid. Six fluid drachms therefore correspond to 40 grains of the anhydrous acid (one equivalent of SO_3, or half an equivalent of $\mathbf{SO_3}$).

Dose.—5 to 30 minims.

Preparation in which Diluted Sulphuric Acid is used.

Infusum Rosæ acidum	1 fluid drachm in 10 fluid ounces

ACIDUM SULPHUROSUM.

Sulphurous Acid.

Sulphurous acid gas, SO_2 or $\mathbf{SO_2}$, dissolved in water, and constituting 9·2 per cent. by weight of the solution.

Take of

Sulphuric Acid	4 fluid ounces
Wood Charcoal, broken into small pieces	1 ounce
Water	2 fluid ounces
Distilled Water	20 fluid ounces

Put the charcoal and sulphuric acid into a glass flask, connected by a glass tube with a wash-bottle containing the two ounces of water, whence a second tube leads into a pint bottle containing the distilled water, to the bottom of which the gas-delivery tube should pass. Apply heat to the flask until gas is evolved, which is to be conducted through the water in the wash-bottle, and then into the distilled water, the latter being kept cold, and the process being continued until the bubbles of gas pass through the solution undiminished in size. The product should be kept in a stoppered bottle in a cool place.

Characters and Tests.—A colourless liquid with a pungent sulphurous odour. Specific gravity 1·04. It gives no precipitate, or but a very slight one, with chloride of barium, but a copious one if solution of chlorine be also added. 34·7 grains by weight of it mixed with an ounce of distilled water and a little mucilage of starch do not acquire a permanent blue colour with the volumetric solution of iodine until 1000 grain-measures of the latter have been added. When evaporated it leaves no residue.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

ACIDUM TANNICUM.

TANNIC ACID.

$C_{54}H_{22}O_{34}$ or $\mathbf{C_{27}H_{22}O_{17}}$.

An acid extracted from galls.

It may be obtained by the following process:—

Take of

Galls in powder . . .	of each a sufficient quantity
Ether	

Expose the powdered galls to a damp atmosphere for two or three days, and afterwards add sufficient ether to form a soft paste. Let this stand in a well closed vessel for twenty-four hours, then, having quickly enveloped it in a linen cloth, submit it to strong pressure in a suitable press, so as to separate the liquid portion. Reduce the pressed cake to powder, mix it with sufficient ether, to which one-sixteenth of its bulk of water has been added, to form again a soft paste, and press this as before. Mix the expressed liquids, and expose the mixture to spontaneous evaporation until, by the aid subsequently of a little heat, it has acquired the consistence of a soft extract; then place it on earthen plates or dishes, and dry it in a hot-air chamber at a temperature not exceeding 212°.

Characters and Tests.—In pale yellow vesicular masses or thin glistening scales, with a strongly astringent taste, and an acid reaction; readily soluble in water and rectified spirit, very sparingly soluble in ether. The aqueous solution precipitates solution of gelatine yellowish-white, and the persalts of iron of a bluish-black colour. It leaves no residue when burned with free access of air.

Dose.—2 to 10 grains.

Preparations.

Glycerinum Acidi Tannici .	1 part in 6 by weight
Suppositoria Acidi Tannici	2 grains in each suppository
Trochisci Acidi Tannici .	½ grain in each lozenge

ACIDUM TARTARICUM.

TARTARIC ACID.

$2HO,C_8H_4O_{10}$ or $\mathbf{H_2C_4H_4O_6}$.

A crystalline acid prepared from the acid tartrate of potash.

It may be obtained by the following process:—

Take of

Acid Tartrate of Potash . .	45 ounces
Distilled Water	a sufficiency
Prepared Chalk	12½ ounces
Chloride of Calcium . . .	13½ ounces
Sulphuric Acid	13 fluid ounces

Boil the acid tartrate of potash with two gallons of the water, and add gradually the chalk, constantly stirring. When the effervescence has ceased, add the chloride of calcium dissolved in two pints of the water. When the tartrate of lime has subsided, pour off the liquid, and wash the tartrate with distilled water until it is rendered tasteless. Pour the sulphuric acid first diluted with three pints of the water on the tartrate of lime, mix thoroughly, boil for half an hour with repeated stirring, and filter through calico. Evaporate the filtrate at a gentle heat until it acquires the specific gravity of 1·21, allow it to cool, and then separate and reject the crystals of sulphate of lime which have formed. Again evaporate the clear liquor till a film forms on its surface, and allow it to cool and crystallise. Lastly purify the crystals by solution, filtration (if necessary), and recrystallisation.

Characters and Tests.—In colourless crystals the primary form of which is the oblique rhombic prism. It has a strongly acid taste, and is readily soluble in water and in rectified spirit. When to either solution, not too much diluted, a little acetate of potash is added, a white crystalline precipitate is formed. Seventy-five grains of crystallised tartaric acid dissolved in water require for neutralisation 1000 grain-measures of the volumetric solution of soda. An aqueous solution of the acid is not affected by sulphuretted hydrogen, and gives no precipitate with the solution of sulphate of lime or of oxalate of ammonia. It leaves no residue, or only a mere trace, when burned with free access of air.

Dose.—10 to 30 grains.

Officinal Tartrates.

Antimonium Tartaratum
Ferrum Tartaratum
Potassæ Tartras
,, ,, acida
Sodæ Citro-tartras effervescens
Soda Tartarata

ACONITI FOLIA.

Aconite Leaves.

The fresh leaves and flowering tops of Aconitum Napellus, *Linn.*, gathered when about one third of the flowers are expanded, from plants cultivated in Britain. *Woodv. Med. Bot.*, plate 6.

Characters.—Leaves smooth, palmate, divided into five deeply cut wedge-shaped segments; exciting slowly, when chewed, a sensation of tingling. Flowers numerous, irregular, deep blue, in dense racemes.

Preparation.—Extractum Aconiti.

ACONITI RADIX.

Aconite Root.

The dried root of Aconitum Napellus, *Linn.; Pharm. Journ.* vol. xv. p. 452, plate. Imported from Germany, or cultivated in Britain, and collected in the winter or early spring before the leaves have appeared.

Characters.—Usually from one to three inches long, not thicker than the finger at the crown, tapering, blackish-brown, internally whitish. A minute portion, cautiously chewed, causes prolonged tingling and numbness.

Preparations.

Aconitia, the active principle
Linimentum Aconiti, 1 ounce to 1 fluid ounce
Tinctura Aconiti, $54\frac{1}{2}$ grains to 1 fluid ounce

ACONITIA.

Aconitia.

An alkaloid obtained from aconite.

Take of

Aconite Root, in coarse powder	14 pounds
Rectified Spirit .	of each a sufficiency
Distilled Water .	
Solution of Ammonia	
Pure Ether . .	
Diluted Sulphuric Acid	

Pour upon the aconite root three gallons of the spirit, mix them well, and heat until ebullition commences; then cool and macerate for four days. Transfer the whole to a displacement apparatus, and percolate, adding more spirit, when requisite, until the root is exhausted. Distil off the greater part of the spirit from the tincture, and evaporate the remainder over a water-bath until the whole of the alcohol has been dissipated. Mix the residual extract thoroughly with twice its weight of boiling distilled water, and when it has cooled to the temperature of the atmosphere, filter through paper. To the filtered liquid add solution of ammonia in slight excess, and heat them gently over a water-bath. Separate the precipitate on a filter, and dry it. Reduce this to coarse powder, and macerate it in successive portions of the pure ether with frequent agitation. Decant the several products, mix, and distil off the ether until the extract is dry. Dissolve the dry extract in warm distilled water acidulated with the sulphuric acid; and, when the solution is cold, precipitate it by the cautious addition of solution of ammonia diluted with four times its bulk of distilled water. Wash the precipitate on a filter with a small quantity of cold distilled water, and dry it by slight pressure between folds of filtering paper.

Characters and Tests.—A white, usually amorphous, solid, soluble in 150 parts of cold, and 50 of hot water, and much more soluble in alcohol and in ether; strongly alkaline to reddened litmus, neutralising acids, and precipitated from them by the caustic alkalies, but not by carbonate of ammonia or the bicarbonates of soda or potash. It melts with heat, and burns with a smoky flame, leaving no residue when burned with free access of air. When rubbed on the skin it causes a tingling sensation, followed by prolonged numbness. It is a very active poison.

Preparation.

Unguentum Aconitiæ . . .	8 grains to 1 ounce

ADEPS BENZOATUS.

BENZOATED LARD.

Take of

Prepared Lard	1 pound
Benzoin, reduced to coarse powder . .	160 grains

Melt the lard by the heat of a water-bath, add the benzoin, and, frequently stirring them together, continue the application of heat for two hours; finally remove the residual benzoin by straining.

Preparations.

Suppositoria Acidi Tannici
" Hydrargyri
" Morphiæ
" Plumbi composita
Unguentum Gallæ
" Plumbi Acetatis
" Sulphuris
" Zinci

ADEPS PRÆPARATUS.

PREPARED LARD.

Synonym.—AXUNGIA, *Edin.*

The purified fat of the hog, Sus scrofa, *Linn.*

Take of

The internal fat of the abdomen of the hog, perfectly fresh	14 pounds

Remove as much of the membranes as possible, cut the fat into small pieces, put it into a suitable vessel with about four gallons of cold water, and, while a current of water is running through the vessel, break up the masses of fat with the hands exposing every part to the water, so that whatever is soluble may be thus dissolved and carried away. Afterwards collect the washed fat on a sieve or in a cloth, drain away as much as possible of the water, liquefy the fat at a heat not exceeding 212° and strain through flannel, pressing the residue while hot, then put it into a pan heated by steam and keep it at a temperature a little but not much above 212°, stirring it continually, until it becomes clear and entirely free from water; finally strain it through flannel.

Characters and Tests.—A soft white fatty substance, melting at about 100°. Has no rancid odour; dissolves entirely in ether. Distilled water in which it has been boiled, when cooled and filtered, gives no precipitate with nitrate of silver, and is not rendered blue by the addition of solution of iodine.

Preparations.

Adeps Benzoatus
Emplastrum Cantharidis
Unguentum Aconitiæ
,, Atropiæ
,, Belladonnæ
,, Hydrargyri
,, ,, Nitratis
,, ,, Subchloridi
Unguentum Iodi
,, Potassæ Sulphuratæ
,, Potassii Iodidi
,, Sabinæ
,, Simplex
,, Sulphuris Iodidi
,, Terebinthinæ
,, Veratriæ

ÆTHER.

ETHER.

Synonym.—ÆTHER SULPHURICUS, *Edin.*, *Dubl.*

A volatile liquid prepared from alcohol, and containing not less than 92 per cent. by volume of pure ether, C_4H_5O or $\mathbf{C_4H_{10}O}$.

Take of

Rectified Spirit	50 fluid ounces
Sulphuric Acid	10 fluid ounces
Chloride of Calcium . . .	10 ounces
Slaked Lime	½ ounce
Distilled Water	13 fluid ounces

Mix the sulphuric acid with twelve fluid ounces of the spirit in a glass matrass capable of containing at least two pints, and, not allowing the mixture to cool, connect the matrass by means of a bent glass tube with a Liebig's condenser, and distil with a heat sufficient to maintain the liquid in brisk ebullition. As soon as the ethereal fluid begins to pass over, supply fresh spirit through a tube into the matrass in a continuous stream, and in such quantity as to equal the volume of the fluid which distils over. For this purpose use a tube furnished with a stopcock to regulate the supply, connecting one end of the tube with a vessel containing the spirit raised above the level of the matrass, and passing the other end through a cork fitted into the matrass. When the whole of the spirit has been added, and forty-two fluid ounces have distilled over, the process may be stopped. Dissolve the chloride of calcium in the water, add the lime, and agitate the mixture in a bottle with the impure ether. Leave the mixture at rest for ten minutes, pour off the light supernatant fluid, and distil it with a gentle heat until a glass bead of specific gravity 0·735 placed in the receiver begins to float. The ether and spirit retained by the chloride of calcium and by the residue of each rectification may be recovered by distillation and used in a subsequent operation.

Characters and Tests.—A colourless very volatile and inflammable liquid, emitting a strong and characteristic odour, and boiling below 105°. Specific gravity 0·735. Fifty measures agitated with an equal volume of water are reduced to 45, by an absorption of 10 per cent. It evaporates without residue.

Dose.—20 to 60 minims.

Preparations.

Æther Purus	
Collodium	6 volumes in 8 nearly
„ Flexile . . .	6 volumes in 8 „
Liquor Epispasticus . . .	4 volumes in 5 „
Spiritus Ætheris . . .	1 volume in 3

ÆTHER PURUS.

Pure Ether.

Ether, C_4H_5O or $\mathbf{C_4H_{10}O}$, free from alcohol and water

Take of

Ether . . Distilled Water } of each	2 pints
Lime, recently burned	¼ ounce
Chloride of Calcium	4 ounces

Put the ether with one pint of the water into a bottle, and shake them together; allow them to remain at rest for a few minutes, and when the two liquids have separated, decant off the supernatant ether; mix this with the remainder of the water, and again, after separation, decant as before. Put now the washed ether, together with the lime and chloride of calcium, into a retort to which a receiver is closely attached, let them stand for twenty-four hours, then distil with the aid of a gentle heat.

Test.—Specific gravity not exceeding 0·720.

ALBUMEN OVI.

EGG ALBUMEN.

The liquid white of the egg of Gallus Banckiva var. domesticus, *Temminck.*

ALCOHOL AMYLICUM.

AMYLIC ALCOHOL.

Synonym.—FOUSEL OIL.

Amylic alcohol, $C_{10}H_{12}O_2$ or $\mathbf{C_5H_{12}O}$, with a small proportion of other spirituous substances. An oily liquid, contained in the crude spirit produced by the fermentation of saccharine solutions with yeast, and separated in the rectification or distillation of such crude spirit.

Characters and Tests.—A colourless liquid with a penetrating and oppressive odour, and a burning taste. When pure its specific gravity is ·818, and its boiling point 270°. Sparingly soluble in water, but soluble in all proportions in alcohol, ether, and essential oils. Exposed to the air in contact with platinum-black it is slowly oxidised, yielding valerianic acid.

Preparation in which Amylic Alcohol is used.

Sodæ Valerianas

ALOE BARBADENSIS.

BARBADOES ALOES.

The inspissated juice of the leaf of Aloe vulgaris, *Lam. Encycl.; Steph. and Church. Med. Bot.* plate 109. Imported from Barbadoes.

Characters.—In yellowish-brown or dark-brown opaque masses; breaks with a dull conchoidal fracture; has a bitter nauseous taste, and a strong disagreeable odour; dissolves almost entirely in proof spirit, and during solution exhibits under the microscope numerous crystals. Usually imported in gourds.

Dose.—2 to 6 grains.

Preparations.

Enema Aloes	4 grains in 1 fluid ounce
Extractum Aloes Barbadensis	8 parts from 10, nearly
Pilula Aloes Barbadensis	1 part in 2, nearly
,, ,, et Ferri	1 part in $5\frac{1}{4}$
,, Cambogiæ composita	1 part in 6, nearly
,, Colocynthidis composita	1 part in 3, nearly
,, ,, et Hyoscyami	1 part in $4\frac{1}{2}$, nearly

ALOE SOCOTRINA.

Socotrine Aloes.

The inspissated juice of the leaf of one or more undetermined species of Aloe, *Linn.* Produced chiefly in Socotra, and shipped to Europe by way of Bombay.

Characters.—In reddish-brown masses, opaque, or translucent at the edges; breaks with an irregular or smooth and resinous fracture; has a bitter taste, and a strong but fragrant odour; dissolves entirely in proof spirit, and during solution exhibits under the microscope numerous minute crystals.

Dose.—2 to 6 grains.

Preparations.

Decoctum Aloes compositum (Extract)	4 grains in 1 fluid ounce
Enema Aloes	4 grains in 1 fluid ounce
Extractum Aloes Socotrinæ	1 part from 2, nearly
,, Colocynthidis compositum (Extract)	1 part in $2\frac{1}{4}$, nearly
Pilula Aloes et Assafœtidæ	1 part in 4
,, ,, et Myrrhæ	1 part in 3
,, ,, Socotrinæ	1 part in 2, nearly
,, Rhei composita	1 part in 6
Tinctura Aloes	11 grains to 1 fluid ounce
,, Benzoini composita	8 grains to 1 fluid ounce
Vinum Aloes	$16\frac{1}{2}$ grains to 1 fluid ounce

ALUMEN.

Alum.

$NH_4O,SO_3,Al_2O_3,3SO_3+24HO$ or $\mathbf{NH_4Al(SO_4)_2.12H_2O}$.

A sulphate of ammonia and alumina, crystallised from solution in water.

Characters and Tests.—In colourless transparent crystalline masses, exhibiting the faces of the regular octahedron, and having an acid sweetish astringent taste. Its aqueous solution gives with caustic potash or soda a white precipitate soluble in an excess of the reagent, and the mixture evolves ammonia especially when heated. The aqueous solution gives an immediate precipitate with chloride of barium; it does not acquire a blue colour from the addition of yellow or red prussiate of potash.

Dose—10 to 20 grains.

Preparation.

Alumen exsiccatum

ALUMEN EXSICCATUM.

Dried Alum.

Take of

Alum	4 ounces

Heat the alum in a porcelain dish or other suitable vessel, till it liquefies, then raise and continue the heat, not allowing it to exceed 400°, till aqueous vapour ceases to be disengaged, and the salt has lost 47 per cent. of its weight. Reduce the residue to powder, and preserve it in a well stopped bottle.

AMMONIACUM.

Ammoniacum.

A gum-resinous exudation from Dorema Ammoniacum, *Don, Trans. Linn. Soc.* Collected in Persia and the Punjaub.

Characters.—In tears or masses; the tears from two to eight lines in diameter, pale cinnamon-brown, breaking with a smooth, shining, opaque white surface; the masses composed of agglutinated tears; hard and brittle when cold, but readily softening with heat. Has a faint odour, and a bitter acrid nauseous taste. Rubbed with water it forms a nearly-white emulsion.

Dose.—10 to 20 grains.

Preparations.

Emplastrum Ammoniaci cum Hydrargyro	12 parts in 15
,, Galbani	1 part in 11
Mistura Ammoniaci	13½ grains to 1 fluid ounce, nearly
Pilula Scillæ composita	1 part in 6
,, Ipecacuanhæ cum Scilla	1 part in 7

AMMONIÆ BENZOAS.

BENZOATE OF AMMONIA.

$NH_4O,C_{14}H_5O_3$ or $\mathbf{NH_4C_7H_5O_2}$.

Take of

Solution of Ammonia	3 fluid ounces, or a sufficiency.
Benzoic Acid	2 ounces
Distilled Water	4 fluid ounces

Dissolve the benzoic acid in three fluid ounces of solution of ammonia previously mixed with the water; evaporate at a gentle heat, keeping ammonia in slight excess; and set aside that crystals may form.

Characters and Tests.—In colourless laminar crystals, soluble in water and in alcohol. It gives a bulky yellowish precipitate with persalts of iron. Its aqueous solution when heated with caustic potash evolves ammonia, and, if it be not too dilute, when acidulated with hydrochloric acid it gives a deposit of benzoic acid. When heated it sublimes without any residue.

Dose.—10 to 20 grains.

AMMONIÆ CARBONAS.

CARBONATE OF AMMONIA.

Synonym.—AMMONIÆ SESQUICARBONAS, *Lond.*, *Dubl.*

$2NH_4O,3CO_2$ or $\mathbf{N_4H_{16}C_3O_8}$.

A volatile and pungent ammoniacal salt, produced by submitting a mixture of sulphate of ammonia or chloride of ammonium and carbonate of lime to sublimation.

Characters and Tests.—In translucent crystalline masses, with a strong ammoniacal odour, and alkaline reaction; soluble in cold water, more sparingly in spirit. It volatilises entirely when heated, and is readily dissolved by acids with effervescence. If diluted nitric acid be added to it in slight excess, and the solution be boiled, it will give no precipitate with chloride of barium or nitrate of silver. Fifty-nine grains dissolved in one ounce of distilled water will be neutralised by 1000 grain-measures of the volumetric solution of oxalic acid.

20 grains of Carbonate of Ammonia	neutralise	23½ grains Citric Acid
		25½ grains Tartaric Acid

Dose.—3 to 10 grains.

Preparations in which Carbonate of Ammonia is used.

Liquor Ammoniæ Acetatis
Spiritus Ammoniæ aromaticus

AMMONIÆ PHOSPHAS.

PHOSPHATE OF AMMONIA.

$2NH_4O,HO,PO_5$ or $\mathbf{(NH_4)_2HPO_4}$.

Take of

Diluted Phosphoric Acid . .	20 fluid ounces
Strong Solution of Ammonia .	a sufficiency

Add the ammonia to the phosphoric acid until the solution is slightly alkaline, then evaporate the liquid, adding more ammonia from time to time, so as to keep it in slight excess, and when crystals are formed, on the cooling of the solution, dry them quickly on filtering paper placed on a porous tile, and preserve them in a stoppered bottle.

Characters and Tests. — In transparent colourless prisms. Soluble in water, insoluble in rectified spirit. When heated with caustic potash, ammonia is evolved. The aqueous solution gives a yellow precipitate with nitrate of silver. If twenty grains of this salt be dissolved in water and solution of ammonio-sulphate of magnesia added, a crystalline precipitate falls, which, when well washed upon a filter with solution of ammonia diluted with an equal volume of water, dried, and heated to redness, leaves 16·8 grains.

Dose.—5 to 20 grains.

AMMONII BROMIDUM.

Bromide of Ammonium.

NH_4Br or $\mathbf{NH_4Br}$.

Characters and Tests.—In colourless crystals, which become slightly yellow by exposure to the air, and have a pungent saline taste. May be sublimed unchanged by the application of heat. Readily soluble in water; less soluble in spirit. A solution of the salt in water, mixed with mucilage of starch and a drop of an aqueous solution of bromine or chlorine, does not exhibit any blue colour.

Dose.—2 to 20 grains.

AMMONII CHLORIDUM.

Chloride of Ammonium.

Synonyms.—Ammoniæ Hydrochloras, 1864.
Ammoniæ Murias, *Edin.*, *Dubl.*
Sal Ammoniac.

NH_4Cl or $\mathbf{NH_4Cl}$.

May be formed by neutralising hydrochloric acid with ammonia and evaporating to dryness. It is usually prepared by sublimation.

Characters and Tests.—In colourless inodorous translucent fibrous masses, tough, and difficult to powder; soluble in water and in rectified spirit. Its aqueous solution when heated with caustic potash evolves ammonia, and when treated with nitrate of silver forms a copious curdy precipitate. When heated it volatilises without decomposition, and leaves no residue.

Dose.—5 to 20 grains.

AMYGDALA AMARA.

BITTER ALMOND.

The seed of the bitter almond tree, Amygdalus communis, *var.* amara, *DC.*

Brought chiefly from Mogadore.

Characters.—Resembles the sweet almond in appearance, but is rather broader and shorter; has a bitter taste, and when rubbed with a little water, emits a characteristic odour.

Yields by expression,

Oleum Amygdalæ

AMYGDALA DULCIS.

SWEET ALMOND.

The seed of the sweet almond tree, Amygdalus communis, *var.* dulcis, *DC.; Woodv. Med. Bot.* plate 83.

Cultivated about Malaga.

Characters.—Above an inch in length, lanceolate, acute, with a clear cinnamon-brown seed-coat, and a bland sweetish nutty-flavoured kernel. Does not evolve the odour of bitter almonds when bruised with water.

Preparations.

Oleum Amygdalæ
Pulvis Amygdalæ compositus, 8 parts in 13

AMYLUM.

STARCH.

The starch procured from the seeds of common wheat, Triticum vulgare, *Villars.*

Characters and Tests.—In white columnar masses. When rubbed in a Wedgwood mortar with a little cold distilled water, it is neither acid nor alkaline to test-paper, and the filtered liquid does not become blue on the addition of solution of iodine. Mixed with boiling water and cooled, it gives a deep blue colour with iodine.

Preparations.

Glycerinum Amyli	1 part in 11 by weight
Mucilago Amyli	12 grains to 1 fluid ounce
Pulvis Tragacanthæ compositus	1 part in 6

ANETHI FRUCTUS.

DILL FRUIT.

The fruit of Anethum graveolens, *Linn.; Woodv. Med. Bot.* plate 159. Cultivated in England, or imported from middle and southern Europe.

Characters.—Oval, flat, about a line and a half in length, with a pale membranous margin. Odour aromatic, taste warm, somewhat bitter.

Preparations.

Aqua Anethi	1 pound to 1 gallon
Oleum Anethi	

ANTHEMIDIS FLORES.

CHAMOMILE FLOWERS.

The dried single and double flower heads of the common chamomile, Anthemis nobilis, *Linn.; Engl. Bot.* vol. xiv. plate 980. Wild and cultivated.

Characters.—The single variety consists of both yellow tubular, and white strap-shaped, florets; the double, of white strap-shaped florets only; all arising from a conical scaly receptacle; both varieties, but especially the single, are bitter and very aromatic.

Preparations.

Extractum Anthemidis	
Infusum Anthemidis .	½ ounce to 10 fluid ounces
Oleum Anthemidis	

ANTIMONII OXIDUM.

OXIDE OF ANTIMONY.

SbO_3 or Sb_2O_3

Take of

Solution of Chloride of Antimony .	16 fluid ounces
Carbonate of Soda	6 ounces
Water	2 gallons
Distilled Water	a sufficiency

Pour the antimonial solution into the water, mix thoroughly, let the precipitate settle, remove the supernatant liquid by a siphon, add one gallon of distilled water, agitate well, let the precipitate subside, again withdraw the fluid, and repeat the processes of affusion of distilled water, agitation, and subsidence. Add now the carbonate of soda previously dissolved in two pints of distilled water, leave them in contact for half an hour, stirring frequently, collect the deposit on a calico filter, and wash with boiling distilled water until the washings cease to give a precipitate with a solution of nitrate of silver acidulated by nitric acid. Lastly, dry the product at a heat not exceeding 212°.

Characters and Tests.—A greyish-white powder, fusible at a low red heat, insoluble in water, but readily dissolved by hydrochloric acid. The solution, dropped into distilled water, gives a white deposit, at once changed to orange by sulphuretted hydrogen. It dissolves entirely when boiled with an excess of the acid tartrate of potash.

Dose.—1 to 4 grains.

Preparations in which Oxide of Antimony is used.

Antimonium Tartaratum	
Pulvis Antimonialis	1 part in 3

Preparations containing Antimony.

Antimonii Oxidum
Antimonium Nigrum
,, Sulphuratum
,, Tartaratum
Liquor Antimonii Chloridi
Pilula Hydrargyri Subchloridi Composita
Pulvis Antimonialis
Unguentum Antimonii Tartarati
Vinum Antimoniale

ANTIMONIUM NIGRUM.

BLACK ANTIMONY.

Synonym.—PREPARED SULPHURET OF ANTIMONY, 1864.

Native sulphide of antimony, SbS_3 or $\mathbf{Sb_2S_3}$, purified from siliceous matter by fusion, and afterwards reduced to fine powder.

Characters and Tests.—A greyish-black crystalline powder. It dissolves almost entirely in boiling hydrochloric acid, evolving sulphuretted hydrogen.

Preparations in which Black Antimony is used.

Antimonium Sulphuratum
Liquor Antimonii Chloridi

ANTIMONIUM SULPHURATUM.

Sulphurated Antimony.

Synonyms.—Antimonii Oxysulphuretum, *Lond.*
Antimonii Sulphuretum aureum, *Edin.*
Antimonii Sulphuretum præcipitatum, *Dubl.*

Sulphide of antimony, SbS_3 or $\mathbf{Sb_2S_3}$, with a small and variable amount of oxide of antimony, SbO_3 or $\mathbf{Sb_2O_3}$.

Take of

Black Antimony	10 ounces
Solution of Soda	4½ pints
Diluted Sulphuric Acid Distilled Water . } of each . .	a sufficiency

Mix the black antimony with the solution of soda and boil for two hours with frequent stirring, adding distilled water occasionally to maintain the same volume. Strain the liquor through calico, and, before it cools, add to it by degrees the diluted sulphuric acid till the latter is in slight excess. Collect the precipitate on a calico filter, wash with distilled water till the washings no longer precipitate with chloride of barium, and dry at a temperature not exceeding 212°.

Characters and Tests.—An orange-red powder, readily dissolved by caustic soda, also by hydrochloric acid with the evolution of sulphuretted hydrogen and the separation of a little sulphur. Boiled in water with acid tartrate of potash, the resulting solution is precipitated orange red with sulphuretted hydrogen. Sixty grains of this preparation, dissolved in hydrochloric acid and dropped into water, give a white precipitate, which, when washed and dried, weighs about 53 grains.

Dose.—1 to 5 grains.

Preparation.

Pilula Hydrargyri Subchloridi composita .	1 part in 5

ANTIMONIUM TARTARATUM.

TARTARATED ANTIMONY.

Synonyms.—ANTIMONII POTASSIO-TARTRAS, *Lond.*
ANTIMONIUM TARTARIZATUM, *Edin.* and *Dubl.*
EMETIC TARTAR.

$KO,SbO_3,C_8H_4O_{10}+2HO$ or $\mathbf{KSbC_4H_4O_7.H_2O}$.

A tartrate of potash and antimony.

Take of

Oxide of Antimony	5 ounces
Acid Tartrate of Potash, in fine powder	6 ounces
Distilled Water	2 pints

Mix the oxide of antimony and acid tartrate of potash with sufficient distilled water to form a paste, and set aside for twenty-four hours. Then add the remainder of the water, and boil for a quarter of an hour, stirring frequently. Filter, and set aside the clear filtrate to crystallise. Pour off the mother liquor, evaporate to one third, and set aside, that more crystals may form. Dry the crystals on filtering paper at the temperature of the air.

Characters and Tests.—In colourless transparent crystals exhibiting triangular facets, soluble in water, and less so in proof spirit. It decrepitates and blackens upon the application of heat. Its solution in water gives with hydrochloric acid a white precipitate, soluble in excess, and which is not formed if tartaric acid be previously added. Twenty grains dissolve without residue in a fluid ounce of distilled water at 60°, and the solution gives with sulphuretted hydrogen an orange precipitate which, when washed and dried at 212°, weighs 9·91 grains.

Dose.—As a diaphoretic $\frac{1}{16}$ to $\frac{1}{6}$th of a grain; as an emetic, 1 to 2 grains.

Preparations.

Unguentum Antimonii Tartarati	1 part in 5
Vinum Antimoniale	2 grains in 1 fluid ounce.

AQUA.

Water.

Natural water, the purest that can be obtained, cleared, if necessary, by filtration.

Tests.—Free from odour, taste, and visible impurity.

AQUA ANETHI.

Dill Water.

Take of

Dill Fruit, bruised	1 pound
Water	2 gallons

Distil one gallon.

AQUA AURANTII FLORIS.

Orange-Flower Water.

The distilled water of the flowers of the Bitter Orange tree, Citrus Bigaradia, *Risso, Hist. Nat. des Orang.* plate 30; and of the Sweet Orange tree, Citrus Aurantium, *Risso,* plates 3 and 4. Prepared mostly in France.

Characters and Tests.—Nearly colourless, fragrant. Not coloured by sulphuretted hydrogen.

Preparation.—Syrupus Aurantii Floris.

AQUA CAMPHORÆ.

Camphor Water.

Synonym.—Mistura Camphoræ, *Lond., Edin., Dubl.*

Take of

Camphor, broken into pieces . . .	½ ounce
Distilled Water	1 gallon

Enclose the camphor in a muslin bag, and attach this to one end of a glass rod, by means of which it may be kept at the bottom of a bottle containing the distilled water, the other end of the rod terminating just below the stopper of the bottle. Having thus put the camphor into the water, close the mouth of the bottle, macerate for at least two days, and then pour off the solution when it is required.

Dose.—1 to 2 fluid ounces.

AQUA CARUI.

Caraway Water.

Take of

Caraway Fruit, bruised	1 pound
Water	2 gallons

Distil one gallon.

AQUA CINNAMOMI.

Cinnamon Water.

Take of

Cinnamon Bark, bruised	20 ounces
Water	2 gallons 36

Distil one gallon.

Preparations.

Mistura Cretæ
„ Guaiaci

Mistura Spiritus Vini Gallici

AQUA DESTILLATA.

Distilled Water.

HO or H_2O.

Take of

Water	10 gallons

Distil from a copper still, connected with a block-tin worm; reject the first half gallon, and preserve the next eight gallons.

Tests.—A fluid ounce of it evaporated in a clean glass capsule leaves scarcely a visible residue. It is not affected by sulphuretted hydrogen, oxalate of ammonia, nitrate of silver, chloride of barium, or solution of lime.

AQUA FŒNICULI.

Fennel Water.

Take of

Fennel Fruit, bruised	1 pound
Water	2 gallons

Distil one gallon.

AQUA LAUROCERASI.

Laurel Water.

Take of

Fresh Leaves of Common Laurel	1 pound
Water	2½ pints

Chop the leaves, crush them in a mortar, and macerate them in the water for twenty-four hours; then distil one pint of liquid. Shake the product, filter through paper, and preserve it in a stoppered bottle.

Dose.—5 to 30 minims.

AQUA MENTHÆ PIPERITÆ.

Peppermint Water.

Take of

Oil of Peppermint	1½ fluid drachm
Water	1½ gallon

Distil one gallon.

Preparation.—Mistura Ferri Aromatica.

AQUA MENTHÆ VIRIDIS.

Spearmint Water.

Take of

Oil of Spearmint	1½ fluid drachm
Water	1½ gallon

Distil one gallon.

AQUA PIMENTÆ.

Pimento Water.

Take of

Pimento, bruised	14 ounces
Water	2 gallons

Distil one gallon.

AQUA ROSÆ.

Rose Water.

Take of

Fresh Petals of the Hundred-leaved Rose, (or an equivalent quantity of the petals preserved while fresh with common salt)	10 pounds
Water	2 gallons

Distil one gallon.

Preparations.

Mistura Ferri composita

Trochisci Bismuthi

AQUA SAMBUCI.

Elder-Flower Water.

Take of

Fresh Elder Flowers, separated from the stalks (or an equivalent quantity of the flowers preserved while fresh with common salt)	10 pounds
Water	2 gallons

Distil one gallon.

ARGENTI NITRAS.

NITRATE OF SILVER.

AgO,NO_5 or $\mathbf{AgNO_3}$.

Take of

Purified Silver	3 ounces
Nitric Acid	$2\frac{1}{2}$ fluid ounces
Distilled Water	5 ounces

Add the nitric acid and the water to the silver in a flask, and apply a gentle heat till the metal is dissolved. Decant the clear liquor from any black powder which may be present, into a porcelain dish, evaporate, and set aside to crystallise; pour off the liquor, and again evaporate and crystallise. Let the crystals drain in a glass funnel, and dry them by exposure to the air, carefully avoiding the contact of all organic substances. To obtain the nitrate in rods, fuse the crystals in a capsule of platinum or thin porcelain, and pour the melted salt into proper moulds. Nitrate of silver must be preserved in bottles carefully stoppered.

Characters and Tests.—In colourless tabular crystals, the primary form of which is the right rhombic prism; or in white cylindrical rods; soluble in distilled water, and in rectified spirit. The solution gives with hydrochloric acid a curdy white precipitate, which darkens by exposure to light, and is soluble in solution of ammonia. A small fragment heated on charcoal with the blow-pipe, first melts, and then deflagrates, leaving behind a dull white metallic coating. Ten grains dissolved in two fluid drachms of distilled water, give with hydrochloric acid a precipitate, which when washed and thoroughly dried, weighs 8·44 grains. The filtrate when evaporated by a water-bath leaves no residue.

Dose.—$\frac{1}{6}$ to $\frac{1}{3}$ grain.

Preparation in which Nitrate of Silver is used.

Argenti Oxidum.

ARGENTI OXIDUM.

Oxide of Silver.

AgO or Ag_2O.

Take of

Nitrate of Silver, in crystals	½ ounce
Solution of Lime	3½ pints
Distilled Water	10 fluid ounces

Dissolve the nitrate of silver in four ounces of the distilled water, and, having poured the solution into a bottle containing the solution of lime, shake the mixture well, and set it aside to allow the deposit to settle. Draw off the supernatant liquid, collect the deposit on a filter, wash it with the remainder of the distilled water, and dry it at a heat not exceeding 212°. Keep it in a stoppered bottle.

Characters and Tests.—An olive-brown powder, which at a low red heat gives off oxygen, and is reduced to the metallic state. It dissolves completely in nitric acid without the evolution of any gas, forming a solution which has the characters of nitrate of silver. Twenty-nine grains heated to redness leave 27 grains of metallic silver.

Dose.—½ grain to 2 grains.

ARGENTUM PURIFICATUM.

Refined Silver.

Pure metallic silver.

Test.—If ammonia be added in excess to a solution of the metal in nitric acid, the resulting fluid exhibits neither colour nor turbidity.

Preparation.—Argenti Nitras.

ARMORACIÆ RADIX.

HORSERADISH ROOT.

The fresh root of Cochlearia Armoracia, *Linn.; Woodv. Med. Bot.* plate 150. Cultivated in Britain.

Characters.—A long, cylindrical, fleshy root, half an inch to one inch in diameter, expanding at the crown into several very short stems. It is internally white, and has a pungent taste and smell.

Preparation.—Spiritus Armoraciæ compositus.

ARNICÆ RADIX.

ARNICA ROOT.

The dried rhizome and rootlets of Arnica montana, *Linn.; Steph. and Church. Med. Bot.* plate 123. Collected in the mountainous parts of middle and southern Europe.

Characters.—Rhizome from one to three inches long, and two or three lines thick, cylindrical, contorted, rough from the scars of the coriaceous leaves, and furnished with numerous long slender fibres; has a peppery taste and peculiar odour.

Preparation.—Tinctura Arnicæ, 1 ounce to 1 pint.

ASSAFŒTIDA.

ASSAFŒTIDA.

A gum-resin obtained by incision from the living root of Narthex Assafœtida, *Falconer* in *Royle's Mat. Med.; Edinb. Roy. Soc. Trans.* vol. xxii. plates 20, 21. In Affghanistan and the Punjaub.

Characters.—In irregular masses, partly composed of tears, moist or dry. The colour of a freshly cut or broken piece is opaque white, but gradually becomes purplish-pink, and ultimately dull-yellowish or pinkish-brown. Taste bitter, acrid; odour fetid, alliaceous, and persistent. It dissolves almost entirely in rectified spirit.

Dose.—5 to 20 grains.

Preparations.

Enema Assafœtidæ	30 grains to 4 fluid ounces
Pilula Aloes et Assafœtidæ	1 part in 4
,, Assafœtidæ composita	1 part in 3½
Spiritus Ammoniæ Fœtidus	33 grains to 1 fluid ounce
Tinctura Assafœtidæ	54½ grains to 1 fluid ounce

ATROPIA.

ATROPIA.

$C_{34}H_{23}NO_6$ or $\mathbf{C_{17}H_{23}NO_3}$.

An alkaloid obtained from Belladonna.

It may be obtained by the following process:—

Take of

Belladonna Root, recently dried, and in coarse powder	2 pounds
Rectified Spirit	10 pints
Slaked Lime	1 ounce
Diluted Sulphuric Acid Carbonate of Potash, of each	a sufficiency
Chloroform	3 fluid ounces
Purified Animal Charcoal	a sufficiency
Distilled Water	10 fluid ounces

Macerate the root in four pints of the spirit, for twenty-four hours, with frequent stirring. Transfer to a displacement apparatus, and exhaust the root with the remainder of the spirit by slow percolation. Add the lime to the tincture placed in a bottle, and shake them occasionally several times. Filter, add the diluted sulphuric acid in very feeble excess to the filtrate and filter again. Distil off three-fourths of the spirit, add to the residue the distilled water, evaporate at a gentle heat, but as rapidly as possible, until the liquor is reduced to one third of its volume and no longer smells of alcohol; then let it cool. Add very cautiously, with constant stirring, a solution of the carbonate of potash so as nearly to neutralise the acid, care, however, being taken that an excess is not used. Set to rest for six hours, then filter, and add carbonate of potash in such quantity that the liquid shall acquire a decided alkaline reaction. Place it in a bottle with the chloroform; mix well by frequently repeated brisk agitation, and pour the mixed liquids into a funnel furnished with a glass stopcock. When the chloroform has subsided, draw it off by the stopcock, and distil it on a water-bath from a retort connected with a condenser. Dissolve the residue in warm rectified spirit; digest the solution with a little animal charcoal; filter, evaporate, and cool until colourless crystals are obtained.

Characters and Tests.—In colourless acicular crystals, sparingly soluble in water, more readily in alcohol and in ether. Its solution in water has an alkaline reaction, gives a citron-yellow precipitate with terchloride of gold, has a bitter taste, and powerfully dilates the pupil. It leaves no ash when burned with free access of air. It is an active poison.

Preparations.

Atropiæ Liquor . .	4 grains in 1 fluid ounce
,, Sulphas	
,, Sulphatis Liquor	4 grains in 1 fluid ounce
,, Unguentum .	8 grains in 1 ounce

ATROPIÆ SULPHAS.

SULPHATE OF ATROPIA.

Take of

Atropia	120 grains
Distilled Water	4 fluid drachms
Diluted Sulphuric Acid . .	a sufficiency

Mix the atropia with the water and add the acid gradually, stirring them together until the alkaloid is dissolved and the solution is neutral. Evaporate it to dryness at a temperature not exceeding 100°.

Characters and Tests.—A colourless powder, soluble in water, forming a solution which is neutral to test paper, and when applied to the eye dilates the pupil as the solution of atropia does. It leaves no ash when burned with free access of air.

Intended for external application. It is a powerful poison.

Preparation.

Liquor Atropiæ Sulphatis .	4 grains in 1 fluid ounce

AURANTII CORTEX.

BITTER-ORANGE PEEL.

The dried outer part of the rind of the bitter orange, Citrus Bigaradia, *Risso, Hist. Nat. des Orang.* plate 30. From the ripe fruit imported from the south of Europe.

Characters.—Thin, of a dark orange colour, nearly free from the white inner part of the rind; having an aromatic bitter taste, and fragrant odour.

Preparations.

Infusum Aurantii . . .	1 ounce to 1 pint
,, ,, compositum .	½ ounce to 1 pint
,, Gentianæ compositum .	120 grains to 1 pint
Mistura Gentianæ . . .	60 grains to 1 pint
Spiritus Armoraciæ compositus	
Tinctura Aurantii . . .	2 ounces to 1 pint
,, Cinchonæ composita	
,, Gentianæ composita .	¾ ounce to 1 pint

BALSAMUM PERUVIANUM.

BALSAM OF PERU.

A balsam obtained from Myroxylon Pereiræ, *Klotzsch, Pharm. Journ.* vol. x. page 282, plate (*Myrospermum* *of Sonsonate*). It exudes from the trunk of the tree after the bark has been scorched and removed. From Salvador in Central America.

Characters.—A reddish-brown or nearly black liquid, translucent in thin films; having the consistence of syrup, a balsamic odour, and an acrid slightly bitter taste; soluble in five parts of rectified spirit. Undergoes no diminution in volume when mixed with water.

Dose.—10 to 15 minims.

BALSAMUM TOLUTANUM.

BALSAM OF TOLU.

A balsam obtained from Myroxylon Toluifera, *HBK.* It exudes from the trunk of the tree after incisions have been made into the bark. From New Granada.

Characters.—A soft and tenacious solid, with a fragrant balsamic odour; soluble in rectified spirit.

Dose.—10 to 20 grains.

Preparations.

Syrupus Tolutanus . . .	$1\frac{1}{4}$ ounce to 3 pounds
Tinctura Benzoini composita .	11 grains to 1 fluid ounce
Tinctura Tolutana . . .	$54\frac{1}{2}$ grains to 1 fluid ounce

BEBERIÆ SULPHAS.

SULPHATE OF BEBERIA.

$C_{35}H_{20}NO_6,HO,SO_3$ or $\mathbf{C_{35}H_{40}N_2O_6.H_2SO_4}$.

The sulphate of an alkaloid prepared from Nectandra or Bebeeru bark.

It may be obtained by the following process:—

Take of

Bebeeru Bark, in coarse powder	1 pound
Sulphuric Acid	$\frac{1}{2}$ fluid ounce
Slaked Lime	$\frac{3}{4}$ ounce, or a sufficiency
Solution of Ammonia	a sufficiency
Rectified Spirit	16 fluid ounces, or a sufficiency
Diluted Sulphuric Acid	a sufficiency
Water	1 gallon
Distilled Water	a sufficiency

Add the sulphuric acid to the water; pour upon the bebeeru bark enough of this mixture to moisten it thoroughly; let it macerate for twenty-four hours; place it in a percolator, and pass through it the remainder of the acidulated water. Concentrate the acid liquor to the bulk of one pint, cool, and add gradually the lime in the form of milk of lime, agitating well, and taking care that the fluid still retains a distinct acid reaction. Let it rest for two hours; filter through calico; wash the precipitate with a little cold distilled water, and to the filtrate add solution of ammonia until the fluid has a faint ammoniacal odour. Collect the precipitate on a cloth, wash it twice with ten ounces of cold water, squeeze it gently with the hand, and dry it by the heat of a water-bath. Pulverise the dry precipitate, put it into a flask with six ounces of the rectified spirit, boil, let it rest for a few minutes, and pour off the spirit. Treat the undissolved portion in a similar manner with fresh spirit, until it is exhausted. Unite the spirituous solutions, add to them four ounces of distilled water, and distil so as to recover the greater part of the spirit. To the residue of the distillation, add by degrees, and with constant stirring, diluted sulphuric acid till the fluid has a slight acid reaction. Evaporate the whole to complete dryness on the water-bath, pulverise the dry product, pour on it gradually one pint of cold distilled water, stirring diligently; filter through paper; evaporate the filtrate to the consistence of syrup, spread it in thin layers on flat porcelain or glass plates, and dry it at a heat not exceeding 140°. Preserve the product in stoppered bottles.

Characters and Tests.—In dark-brown thin translucent scales, yellow when in powder, with a strong bitter taste, soluble in water and in alcohol. Its watery solution gives a white precipitate with chloride of barium; and with caustic soda a yellowish-white precipitate, which is dissolved by agitating the mixture with twice its volume of ether. The ethereal solution, separated by a pipette and evaporated, leaves a yellow translucent residue, entirely soluble in dilute acids. It is entirely destructible by heat. Water forms with it a clear brown solution.

Dose.—1 to 10 grains.

BELÆ FRUCTUS.

BAEL FRUIT.

The dried half-ripe fruit of Ægle Marmelos, *DC.*, *Pharm. Journ.* vol. x. page 166, plate. From Malabar and Coromandel.

Characters.—Fruit roundish, about the size of a large orange, with a hard woody rind; usually imported in dried slices, or in fragments consisting of portions of the rind and adherent dried pulp and seeds. Rind about a line and a half thick, covered with a smooth pale-brown or greyish epidermis, and internally, as well as the dried pulp, brownish-orange, or cherry-red. The moistened pulp is mucilaginous.

Preparation.

Extractum Belæ liquidum . 1 ounce to 1 fluid ounce

BELLADONNÆ FOLIA.

BELLADONNA LEAVES.

The fresh leaves, with the branches to which they are attached, of Deadly Nightshade, Atropa Belladonna, *Linn.*;

also the leaves separated from the branches and carefully dried; gathered from wild or cultivated British plants when the fruit has begun to form. *Flor. Lond.* fasc. v. plate 16.

Characters.—Leaves alternate, three to six inches long, ovate, acute, entire, smooth, the uppermost in pairs and unequal. The expressed juice, or an infusion, dropped into the eye, dilates the pupil.

Preparations.

Extractum Belladonnæ .	about 4 parts from 100
Tinctura Belladonnæ . .	1 ounce to 1 pint

BELLADONNÆ RADIX.

BELLADONNA ROOT.

The dried root of Atropa Belladonna, *Linn.* Cultivated in Britain or imported from Germany.

Characters.—From one to two feet long, and from half an inch to two inches thick, branched and wrinkled, brownish-white. An infusion dropped into the eye dilates the pupil.

Preparations.

Atropia	
Linimentum Belladonnæ .	1 ounce to 1 fluid ounce

BENZOINUM.

BENZOIN.

A balsamic resin obtained from Styrax Benzoin, *DC. Phil. Trans.* vol. lxxvii. plate 12. It is procured by making incisions into the bark of the tree, and allowing the liquid that exudes to concrete by exposure to the air. Imported from Siam and Sumatra.

Characters.—In lumps, consisting of agglutinated tears, or of a brownish mottled mass with or without white tears imbedded in it; has little taste, but an agreeable odour; gives off, when heated, fumes of benzoic acid; is soluble in rectified spirit and in solution of potash.

Preparations.

Acidum Benzoicum	
Adeps Benzoatus . . .	10 grains to 1 ounce
Tinctura Benzoini composita .	44 grains to 1 fluid ounce

BISMUTHI CARBONAS.

CARBONATE OF BISMUTH.

$2(BiO_3,CO_2),HO$ or $\mathbf{2(Bi_2CO_5).H_2O}$.

Take of

Purified Bismuth in small pieces .	2 ounces
Nitric Acid	4 fluid ounces
Carbonate of Ammonia . . .	6 ounces
Distilled Water	a sufficiency

Mix the nitric acid with three ounces of distilled water, and add the bismuth in successive portions. When effervescence has ceased, apply for ten minutes a heat approaching that of ebullition, and afterwards decant the solution from any insoluble matter that may be present. Evaporate the solution until it is reduced to two fluid ounces, and add this in small quantities at a time to a cold filtered solution of the carbonate of ammonia in two pints of distilled water, constantly stirring the mixture as it is formed. Collect the precipitate on a calico filter and wash it with distilled water until the washings pass tasteless. Remove now as much of the adhering water as can be separated from the precipitate by slight pressure with the hands, and finally dry the product at a temperature not exceeding 150°.

Characters and Tests.—A white powder, blackened by sulphuretted hydrogen; insoluble in water, but soluble with effervescence in nitric acid. When added to sulphuric acid coloured with sulphate of indigo the colour of the latter is not discharged. If to nitric acid mixed with half its volume of distilled water as much carbonate of bismuth be added as the acid will dissolve, one volume of this solution poured into twenty volumes of water will yield a white precipitate. The nitric acid solution gives no precipitate with diluted sulphuric acid or with solution of nitrate of silver.

Dose.—5 to 20 grains.

BISMUTHI SUBNITRAS.

SUBNITRATE OF BISMUTH.

$BiO_3,NO_5,2HO$ or $\mathbf{BiNO_4.H_2O}$.

Synonyms.—BISMUTHUM ALBUM, 1864.
BISMUTHI NITRAS, *Lond.*

Take of

Purified Bismuth, in small pieces	2 ounces
Nitric Acid	4 fluid ounces
Distilled Water	a sufficiency

Mix the nitric acid with three ounces of distilled water, and add the bismuth in successive portions. When effervescence has ceased apply for ten minutes a heat approaching that of ebullition, and decant the solution from any insoluble matter that may be present. Evaporate the solution until it is reduced to two fluid ounces, and pour it into half a gallon of distilled water. When the precipitate which forms has subsided, decant the supernatant liquid, add half a gallon of distilled water to the precipitate, stir them well together, and after two hours decant off the liquid, collect and drain the precipitate in a calico filter, press it with the hands, and dry it at a temperature not exceeding 150°.

Characters and Tests.—A heavy white powder in minute crystalline scales, blackened by sulphuretted hydrogen; insoluble in water, but soluble in nitric acid mixed with half its volume of distilled water, forming a solution which poured into water gives a white precipitate. It forms with sulphuric acid diluted with an equal bulk of water a solution which is blackened by sulphate of iron. The nitric acid solution gives no precipitate with diluted sulphuric acid nor with solution of nitrate of silver.

Dose.—5 to 20 grains.

Preparation.—Trochisci Bismuthi, 2 grains in each lozenge.

BISMUTHUM.

BISMUTH.

A crystalline metal. As met with in commerce it is generally impure.

Preparation.—Bismuthum Purificatum.

BISMUTHUM PURIFICATUM.

PURIFIED BISMUTH.

Take of

Bismuth	10 ounces
Nitrate of Potash in powder . . .	2 ounces

Put the bismuth and one ounce of the nitrate of potash into a crucible, and heat them to a temperature at which both the metal and the salt are fused. Continue the heat, constantly stirring the contents of the crucible, for fifteen minutes or until the salt has solidified into a slag over the metal. Then remove the salt, add the remainder of the nitrate of potash to the bismuth in the crucible, and repeat the process as before. Finally, pour the bismuth while fused into a suitable mould and allow it to cool.

Characters and Tests.—A crystalline metal of a greyish-white colour, with a distinct roseate tinge. Specific gravity 9·83. Dissolved in a mixture of equal volumes of nitric acid and distilled water it forms a solution which by evaporation yields colourless crystals that are decomposed on the addition of water, giving a white precipitate. If the mother liquor from which the crystals have been separated be added to solution of carbonate of ammonia, the precipitate formed and the solution are free or nearly free from colour.

Preparations containing Bismuth.

Bismuthi Carbonas	Liquor Bismuthi et Ammoniæ Citratis
,, Subnitras	

Trochisci Bismuthi

BORAX.

Borax.

Synonym.—Sodæ Biboras, *Dubl.*

$NaO,2BO_3+10HO$ or $\mathbf{Na_2B_4O_7.10H_2O}$.

A native salt. It is also made artificially by boiling together, in proper proportions, boracic acid and carbonate of soda.

Characters and Tests.—In transparent colourless crystals, sometimes slightly effloresced, with a weak alkaline reaction; insoluble in rectified spirit, soluble in water. A hot saturated solution, when acidulated with any of the mineral acids, lets fall, as it cools, a scaly crystalline deposit (boracic acid), the solution of which in spirit burns with a green flame. 191 grains dissolved in 10 fluid ounces of distilled water require for saturation 1000 grain-measures of the volumetric solution of oxalic acid.

Dose.—5 to 40 grains.

Preparations.

Glycerinum Boracis . .	1 part in 6 by weight
Mel Boracis . . .	56 grains in 1 ounce

BROMUM.

Bromine.

A liquid non-metallic element, obtained from sea-water and from some saline springs.

Characters and Tests.—A dark brownish-red, very volatile, liquid, with a strong and disagreeable odour. Its specific gravity is 2·966. At the common temperature of the air it gives off red vapours, and at a temperature of 117° it boils. Agitated with solution of soda in such proportion that the fluid remains very slightly alkaline, it forms a colourless liquid, which, if coloured by the farther addition of a small quantity of the bromine, does not become blue on the subsequent addition of a cold solution of starch.

Preparations.

Ammonii Bromidum	Potassii Bromidum

BUCHU FOLIA.

Buchu Leaves.

The dried leaves of, 1. Barosma betulina, *Bartling. Berg u. Schmidt, Off. Gewächse, plate* 1. *f.*—2. Barosma crenulata, *Hooker. Bot. Mag.* vol. lxii. plate 3413.—3. Barosma serratifolia, *Willd. Enum. Bot. Mag.* (*Diosma serratifolia*), vol. xiii. plate 456. Imported from the Cape of Good Hope.

Characters.—Smooth, marked with pellucid dots at the indentations and apex; having a powerful odour and a warm camphoraceous taste. 1. About three quarters of an inch long, coriaceous, obovate, with a recurved truncated apex and sharp cartilaginous spreading teeth. 2. About an inch long, oval-lanceolate, obtuse, minutely crenated, five nerved. 3. From an inch to an inch and a half long, linear-lanceolate, tapering at each end, sharply and finely serrated, three-nerved.

Preparations.

Infusum Buchu . . .	1 ounce to 1 pint
Tinctura Buchu . . .	$2\frac{1}{2}$ ounces to 1 pint

CADMII IODIDUM.

IODIDE OF CADMIUM.

CdI or $\mathbf{CdI_2}$.

It may be formed by direct combination of iodine and cadmium in the presence of water.

Characters and Tests.—In flat micaceous crystals, white, of a pearly lustre, which melt when heated to about 600°, forming an amber-coloured fluid. At a dull red heat violet-coloured vapours are given off. It is anhydrous and permanent in the air; freely soluble in water and in rectified spirit, and the solution reddens litmus paper. The aqueous solution gives a yellow precipitate with sulphuretted hydrogen or sulphide of ammonium, which is insoluble in excess of the latter; the solution also gives a white gelatinous precipitate with excess of solution of potash, the filtrate from which is unaffected by sulphide of ammonium. Ten grains dissolved in water and nitrate of silver added in excess give a precipitate which, when washed with water and afterwards with half an ounce of solution of ammonia, and dried, weighs 12·5 grains.

Preparation.—Unguentum Cadmii Iodidi, 1 part in 8.

CALCII CHLORIDUM.

CHLORIDE OF CALCIUM.

$CaCl$ or $\mathbf{CaCl_2}$.

It may be formed by neutralising hydrochloric acid with carbonate of lime, adding a little solution of chlorinated lime and slaked lime to the solution, filtering, evaporating until it becomes solid, and finally drying the salt at about 400°.

Characters and Tests.—In white agglutinated masses, dry, but very deliquescent, evolves no chlorine or hypochlorous acid on the addition of hydrochloric acid, and is entirely soluble in twice its weight of water, also in alcohol. The aqueous solution is not precipitated by the addition of lime water.

Dose.—10 to 20 grains.

CALCIS CARBONAS PRÆCIPITATA.

Precipitated Carbonate of Lime.

CaO,CO_2 or $CaCO_3$.

Take of

Chloride of Calcium	5 ounces
Carbonate of Soda	13 ounces
Boiling Distilled Water . . .	a sufficiency

Dissolve the chloride of calcium and carbonate of soda each in two pints of the water; mix the two solutions; and allow the precipitate to subside. Collect this on a calico filter, wash it with boiling distilled water until the washings cease to give a precipitate with nitrate of silver, and dry the product at the temperature of 212°.

Characters and Tests.—A white crystalline powder, insoluble in water, dissolving in hydrochloric acid with effervescence. The solution, when neutralised by ammonia, lets fall a copious white precipitate on the addition of oxalate of ammonia. With diluted nitric acid it gives a clear solution, which, if perfectly neutral and deprived of carbonic acid by boiling, is not precipitated by saccharated solution of lime added in excess, or by the solution of nitrate of silver.

Dose.—10 to 60 grains.

Preparation containing Precipitated Carbonate of Lime.

Trochisci Bismuthi .	4 grains in each lozenge, nearly

CALCIS HYDRAS.

Slaked Lime.

Hydrate of lime, CaO,HO or CaH_2O_2, with some impurities.

Take of

Lime	2 pounds
Distilled Water	1 pint

Place the lime in a metal pot, pour the water upon it, and when vapour ceases to be disengaged cover the pot with its lid, and set it aside to cool. When the temperature has fallen to that of the atmosphere, put the slaked lime on an iron-wire sieve, and by gentle agitation cause the fine powder to pass through the sieve, rejecting what is left. Put the powder into a well-stopped bottle, and keep it excluded as much as possible from the air. Slaked lime should be recently prepared.

Preparations.

Liquor Calcis	Liquor Calcis Saccharatus

CALCIS PHOSPHAS.

PHOSPHATE OF LIME.

$3CaO,PO_5$ or $Ca_3P_2O_8$.

Take of

Bone Ash	4 ounces
Hydrochloric acid	6 fluid ounces
Water	2 pints
Solution of Ammonia	12 fluid ounces, or a sufficiency
Distilled Water	a sufficiency

Digest the bone ash in the hydrochloric acid, diluted with a pint of water, until it is dissolved. Filter the solution, if necessary; add the remainder of the water, and afterwards the solution of ammonia, until the mixture acquires an alkaline reaction; and, having collected the precipitate on a calico filter, wash it with boiling distilled water as long as the liquid which passes through occasions a precipitate when dropped into solution of nitrate of silver acidulated with nitric acid. Dry the washed product at a temperature not exceeding 212°.

Characters and Tests.—A light white amorphous powder, insoluble in water, but soluble without effervescence in diluted nitric acid; the solution continues clear when an excess of acetate of soda is added to it, but lets fall a white precipitate on the subsequent addition either of a little oxalate of ammonia or of perchloride of iron. Ten grains dissolve perfectly and without effervescence in diluted hydrochloric acid, and the solution yields with ammonia a white precipitate, insoluble in boiling solution of potash, and weighing ten grains when washed and dried.

Dose.—10 to 20 grains.

Preparation.—Pulvis Antimonialis, 2 parts in 3.

CALUMBÆ RADIX.

Calumba Root.

The root, cut transversely and dried, of Jateorrhiza Columba, *Miers*, and J. Miersii, *Oliv.* MS. *in Flor. Trop. Afric.* ined. Cocculus palmatus, *non DC.; Steph. and Church. Med. Bot.* plate 160. From the forests of Eastern Africa, between Ibo and the Zambezi.

Characters.—Slices, flat, circular, or oval, about two inches in diameter, and from two to four lines thick, softer and thinner towards the centre, greyish-yellow, bitter. A decoction, when cold, is blackened by the solution of iodine.

Dose in powder.—5 to 20 grains.

Preparations.

Extractum Calumbæ .	about 2½ ounces from 1 pound
Infusum Calumbæ . .	1 ounce to 1 pint
Mistura Ferri Aromatica .	½ ounce to 16 fluid ounces
Tinctura Calumbæ . .	2½ ounces to 1 pint

CALX.

Lime.

An alkaline earth, CaO or $\mathbf{CaO}$, with some impurities, obtained by calcining chalk or limestone so as to expel carbonic acid.

Characters and Tests.—In compact masses of a whitish colour, which readily absorb water, and which, when rather less than their weight of water is added, crack and fall into powder with the development of much heat. The powder obtained by this process of slaking, when agitated with distilled water gives, after filtration, a clear solution which has an alkaline reaction, and yields a white precipitate with oxalate of ammonia. The powder obtained by slaking, dissolves, without much residue and without effervescence, in diluted hydrochloric acid, and if the solution thus formed be evaporated to dryness, and the residue redissolved in water, only a very scanty precipitate forms on the addition of saccharated solution of lime.

Preparation.—Calcis Hydras.

CALX CHLORATA.

Chlorinated Lime.

A product obtained by exposing slaked lime to the action of chlorine gas as long as the latter is absorbed. It possesses bleaching and disinfecting properties.

Characters and Tests.—A dull white powder with a feeble odour of chlorine, partially soluble in water. The solution evolves chlorine copiously upon the addition of oxalic acid, and deposits at the same time oxalate of lime. Ten grains mixed with thirty grains of iodide of potassium, and dissolved in four fluid ounces of water, produce, when acidulated with two fluid drachms of hydrochloric acid, a reddish solution, which requires for the discharge of its colour at least 850 grain-measures of the volumetric solution of hyposulphite of soda, corresponding to 30 per cent. of chlorine liberated by hydrochloric acid.

Preparations.

Liquor Calcis Chloratæ . .	2 ounces to 1 pint
Vapor Chlori	

CAMBOGIA.

GAMBOGE.

A gum-resin obtained from Garcinia Morella, *Desrous. var.* pedicellata. Imported from Siam.

Characters and Test.—In cylindrical pieces, breaking easily with a smooth conchoidal glistening fracture; colour tawny, changing to yellow when it is rubbed with water; taste acrid. An emulsion made with boiling water, and cooled, does not become green with the solution of iodine.

Dose.—1 to 4 grains.

Preparation.

Pilula Cambogiæ composita . 1 part in 6, nearly

CAMPHORA.

CAMPHOR.

A concrete volatile oil obtained from the wood of Camphora Officinarum, *Nees, Laurineæ; Woodv. Med. Bot.* (*Laurus Camphora*), plate 155. Imported in the crude state from China and Japan, and purified by sublimation in this country.

Characters and Test.—White, translucent, tough, and crystalline; has a powerful penetrating odour, and a pungent taste followed by a sensation of cold; floats on water; volatilises slowly at ordinary temperatures; is slightly soluble in water, but readily soluble in rectified spirit and in ether. Sublimes entirely when heated.

Dose.—1 to 10 grains.

Preparations containing Camphor.

Aqua Camphoræ	
Linimentum Aconiti	22 grains in 1 fluid ounce
,, Belladonnæ	22 grains in 1 fluid ounce
,, Camphoræ	1 in 5 nearly
,, Camphoræ compositum	54½ grains in 1 fluid ounce
,, Chloroformi	
,, Hydrargyri	
,, Iodi	11 grains in 1 fluid ounce
,, Opii	
,, Saponis	22 grains in 1 fluid ounce
,, Sinapis compositum	24 grains in 1 fluid ounce
,, Terebinthinæ	1 part in 17½, nearly
,, Terebinthinæ aceticum	
Spiritus Camphoræ	1 in 10
Tinctura Camphoræ composita	1½ grain in 1 fluid ounce
Unguentum Plumbi Subacetatis compositum	
,, Hydrargyri compositum	1½ ounce in 13½ ounces

CANELLÆ ALBÆ CORTEX.

CANELLA ALBA BARK.

The bark of Canella alba, *Murray*. From the West Indies.

Characters.—In quills or broken pieces, hard, of a yellowish-white or pale orange colour, somewhat lighter on the internal surface. It has an aromatic clove-like odour, and an acrid peppery taste.

Preparation.

Vinum Rhei	60 grains to 1 pint

CANNABIS INDICA.

INDIAN HEMP.

The dried flowering tops of the female plants of Cannabis sativa, *Linn.* Hemp. *Berg u. Schmidt, Off. Gewächse, plate xix. b.* For medicinal use that which is grown in India, and from which the resin has not been removed, is alone to be employed.

Characters.—Tops consisting of one or more alternate branches, bearing the remains of the flowers and smaller leaves and a few ripe fruits, pressed together in masses which are about two inches long, harsh, of a dusky green colour and a characteristic odour.

Preparations.

Extractum Cannabis Indicæ	
Tinctura Cannabis Indicæ .	22 grains of extract in 1 fluid ounce, nearly

CANTHARIS.

CANTHARIDES.

Cantharis vesicatoria, *De Geer, Hist. des Insectes.* The Beetle, dried; collected chiefly in Hungary.

Characters and Tests.—From eight to ten lines long, furnished with two wing-covers of a shining metallic-green colour, under which are two membranous transparent wings; odour strong and disagreeable; powder greyish-brown, containing shining green particles. Free from mites.

Preparations.

Acetum Cantharidis .	2 ounces to 1 pint
Charta Epispastica	
Emplastrum Calefaciens	1 part in 24, nearly
" Cantharidis	1 part in 3
Liquor Epispasticus .	1 ounce to 2½ fluid ounces
Tinctura Cantharidis .	5½ grains to 1 fluid ounce
Unguentum Cantharidis	1 part to 7, nearly

CAPSICI FRUCTUS.

CAPSICUM FRUIT.

The dried ripe fruit of Capsicum fastigiatum, *Blume, Bijdr.; Wight, Icones Plant. Ind. Orient.* vol. iv. plate 1617. Imported from Zanzibar, and distinguished in commerce as Guinea Pepper and Pod Pepper.

Characters.—Pod membranous, from five to eight lines long, two lines broad, straight, conical, pointed, smooth, shining, but somewhat corrugated, orange-red, intensely hot in taste.

Dose.—½ to 1 grain.

Preparation.

Tinctura Capsici . . .	16½ grains to 1 fluid ounce

CARBO ANIMALIS.

ANIMAL CHARCOAL. BONE BLACK.

The residue of bones, which have been exposed to a red heat without the access of air. Consists principally of charcoal, and phosphate and carbonate of lime.

Preparation.—Carbo Animalis Purificatus.

CARBO ANIMALIS PURIFICATUS.

PURIFIED ANIMAL CHARCOAL.

Animal charcoal from which the earthy salts have been almost wholly removed.

Take of

Bone Black, in powder . . .	16 ounces
Hydrochloric Acid	10 fluid ounces
Distilled Water	a sufficiency

Mix the hydrochloric acid with a pint of the water, and add the bone black, stirring occasionally. Digest at a moderate heat for two days, agitating from time to time; collect the undissolved charcoal on a calico filter, and wash with distilled water till what passes through gives scarcely any precipitate with nitrate of silver. Dry the charcoal, and then heat it to redness in a closely covered crucible.

Characters.—A black pulverulent substance; inodorous and almost tasteless. Tincture of litmus diluted with twenty times its bulk of water, agitated with it and thrown upon a filter, passes through colourless. When burned at a high temperature with a little red oxide of mercury and free access of air, it leaves only a slight residue.

Dose.—20 to 60 grains.

CARBO LIGNI.

Wood Charcoal.

Wood charred by exposure to a red heat without access of air.

Characters.—In black brittle porous masses, without taste or smell, very light, and retaining the shape and texture of the wood from which it was obtained. When burned at a high temperature with free access of air, it leaves not more than two per cent. of ash.

Dose.—20 to 60 grains.

Preparation.—Cataplasma Carbonis.

CARDAMOMUM.

Cardamoms.

The dried capsules of the Malabar Cardamom, Elettaria Cardamomum, *Maton, Trans. Linn. Soc.* vol. x. plates 4, 5. Cultivated in Malabar. The seeds are best kept in their pericarps, from which they should be separated when required for use, the pericarpial coats being rejected.

Characters.—Seeds obtusely angular, corrugated, reddish-brown, internally white, with a warm aromatic agreeable taste and odour, contained in ovate-oblong triangular pale-brown coriaceous ribbed pericarps.

Preparations.

Extractum Colocynthidis compositum .	1 part in 27 nearly
Pulvis Cinnamomi compositus . .	1 part in 3
,, Cretæ Aromaticus . . .	1 part in 44
Tinctura Cardamomi composita . .	¼ ounce to 1 pint
,, Gentianæ composita . .	¼ ounce to 1 pint
,, Rhei	¼ ounce to 1 pint
Vinum Aloes	80 grains to 1 pint

CARUI FRUCTUS.

Caraway Fruit.

The dried fruit of Carum Carui, *Linn.; Woodv. Med. Bot.* plate 45. Cultivated in England and Germany.

Characters.—Fruit usually separating into two parts which are about two lines long, curved, tapering at each end, brown, with five paler longitudinal ridges; having an agreeable aromatic odour and spicy taste.

Preparations.

Aqua Carui	1 pound to 1 gallon
Confectio Opii	1 part in 10, nearly
,, Piperis . . .	3 parts in 20
Oleum Carui	
Pulvis Opii compositus . .	1 part in 2½
Tinctura Cardamomi composita .	¼ ounce to 1 pint
,, Sennæ . . .	½ ounce to 1 pint

CARYOPHYLLUM.

Cloves.

The dried unexpanded flower buds of Caryophyllus aromaticus, *Linn.; Bot. Mag.* vol. liv. plates 2749, 2750. Cultivated in Penang, Bencoolen, and Amboyna.

Characters and Test.—About six lines long, dark reddish-brown, plump, and heavy, consisting of a nearly cylindrical body surmounted by four teeth and a globular head, with a strong fragrant odour, and a bitter spicy pungent taste. It emits oil when indented with the nail.

Preparations.

Infusum Aurantii compositum .	60 grains to 1 pint
„ Caryophylli . . .	½ ounce to 1 pint
Mistura Ferri Aromatica . .	¼ ounce to 16 fluid ounces
Oleum Caryophylli	
Vinum Opii	75 grains to 1 pint

CASCARILLÆ CORTEX.

Cascarilla Bark.

The bark of Croton Eluteria, *Bennett, Journ. Proceed. Linn. Soc.; Pharm. Journ.* 2nd ser. vol. iv. p. 150, plate. From the Bahama Islands.

Characters.—In quills, two or three inches in length, and from two to five lines in diameter, dull brown but more or less coated with white crustaceous lichens; breaks with a short resinous fracture; is warm and bitter to the taste; and emits a fragrant odour when burned.

Preparations.

Infusum Cascarillæ . . .	2 ounces to 1 pint
Tinctura Cascarillæ . . .	2½ ounces to 1 pint

CASSIÆ PULPA.

Cassia Pulp.

The pulp obtained from the pods of the Purging Cassia, Cassia Fistula, *Linn.; Woodv. Med. Bot.* plate 163. Imported from the East Indies; or recently extracted from pods imported from the East or West Indies.

Characters.—Blackish brown, viscid, sweet in taste, and somewhat sickly in odour; usually containing the seeds and dissepiments.

Preparation.—Confectio Sennæ, 1 part in 8 nearly.

CASTOREUM.

Castor.

The dried preputial follicles and their secretion, obtained from the Beaver, Castor Fiber, *Linn.*, and separated from the somewhat shorter and smaller oilsacs which are frequently attached to them. From the Hudson's Bay Territory.

Characters.—Follicles in pairs, about three inches long, fig-shaped, firm, and heavy, brown or greyish-black; containing a dry resinous reddish-brown or brown highly odorous secretion, in great part soluble in rectified spirit, and in ether.

Dose.—5 to 10 grains.

Preparation.—Tinctura Castorei, 22 grains to 1 fluid ounce.

CATAPLASMA CARBONIS.

Charcoal Poultice.

Take of

Wood Charcoal, in powder . .	$\frac{1}{2}$ ounce
Crumb of Bread	2 ounces
Linseed Meal	$1\frac{1}{2}$ ounce
Boiling Water	10 fluid ounces

Macerate the bread in the water for ten minutes near the fire, then mix, and add the linseed meal gradually, stirring the ingredients, that a soft poultice may be formed. Mix with this half the charcoal, and sprinkle the remainder on the surface of the poultice.

CATAPLASMA CONII.

HEMLOCK POULTICE.

Take of

Hemlock Leaf, in powder	1 ounce
Linseed Meal	3 ounces
Boiling Water	10 fluid ounces

Mix the hemlock and linseed meal, and add them to the water gradually, with constant stirring.

CATAPLASMA FERMENTI.

YEAST POULTICE.

Take of

Beer Yeast	6 fluid ounces
Wheaten Flour	14 ounces
Water, heated to 100°	6 fluid ounces

Mix the yeast with the water; and stir in the flour. Place the mass near the fire till it rises.

CATAPLASMA LINI.

LINSEED POULTICE.

Take of

Linseed Meal	4 ounces
Olive Oil	½ fluid ounce
Boiling Water	10 fluid ounces

Mix the linseed meal gradually with the water, then add the oil, with constant stirring.

CATAPLASMA SINAPIS.

MUSTARD POULTICE.

Take of

Mustard, in powder	2½ ounces
Linseed Meal	2½ ounces
Boiling Water	10 fluid ounces

Mix the linseed meal gradually with the water, and add the mustard, with constant stirring.

CATAPLASMA SODÆ CHLORATÆ.

CHLORINE POULTICE.

Take of

Solution of Chlorinated Soda . .	2 fluid ounces
Linseed Meal	4 ounces
Boiling Water	8 fluid ounces

Mix the linseed meal gradually with the water, and add the solution of chlorinated soda, with constant stirring.

CATECHU PALLIDUM.

PALE CATECHU.

An extract of the leaves and young shoots of Uncaria Gambir, *Roxburgh, Flor. Ind.; Trans. Linn. Soc.* (*Nauclea Gambir*), vol. ix. plate 22. Prepared at Singapore and in other places in the Eastern Archipelago.

Characters.—In cubes, or masses formed of coherent cubes;

the former about an inch in diameter, externally brown, internally ochrey-yellow or pale brick-red, breaking easily with a dull earthy fracture. Taste bitter, very astringent, and mucilaginous, succeeded by slight sweetness. Entirely soluble in boiling water. The decoction when cool is not rendered blue by iodine.

Dose.—10 to 30 grains.

Preparations.

Infusum Catechu . . .	16 grains to 1 fluid ounce
Pulvis Catechu compositus .	1 part in 2½
Tinctura Catechu . . .	54½ grains to 1 fluid ounce
Trochisci Catechu . .	1 grain in each lozenge

CERA ALBA.

White Wax.

Yellow wax bleached by exposure to moisture, air, and light.

Characters.—Hard, nearly white, translucent. Not unctuous to the touch; does not melt under 150°.

Preparations.

Charta Epispastica
Suppositoria Acidi Tannici
” Hydrargyri
” Morphiæ
” Plumbi composita
Unguentum Cetacei
” Plumbi Subacetatis compositum
” Simplex

CERA FLAVA.

Yellow Wax.

The prepared honeycomb of the Hive Bee, Apis mellifica, *Linn.*

Characters.—Firm, breaking with a granular fracture, yellowish, having an agreeable honey-like odour. Not unctuous to the touch; does not melt under 140°; yields nothing to cold rectified spirit, but is entirely soluble in oil of turpentine. Boiling water in which it has been agitated, when cooled, is not rendered blue by iodine.

Preparations.

Emplastrum Calefaciens
,, Cantharidis
,, Cerati Saponis
,, Galbani
,, Picis
Unguentum Cantharidis
,, Hydrargyri compositum
Unguentum Hydrargyri oxidi rubri
,, Picis Liquidæ
,, Resinæ
,, Sabinæ
,, Terebinthinæ

CEREVISIÆ FERMENTUM.

Beer Yeast.

The ferment, obtained in brewing beer.

Characters.—Viscid, semifluid, frothy, exhibiting under the microscope numerous round or oval confervoid cells.

Dose.—$\frac{1}{2}$ to 1 ounce.

Preparation.—Cataplasma Fermenti.

CERII OXALAS.

Oxalate of Cerium.

$2CeO,C_4O_6+6HO$ or $\mathbf{CeC_2O_4.3H_2O}$.

A salt which may be obtained as a precipitate by adding solution of oxalate of ammonia to a soluble salt of cerium.

Characters and Tests.—A white granular powder, insoluble n water, decomposed at a dull red heat into a reddish-brown powder which dissolves completely and without effervescence in boiling hydrochloric acid, and the resulting solution gives with solution of sulphate of potash a white crystalline precipitate. If the salt be boiled with solution of potash and filtered, the filtrate is not affected by solution of chloride of ammonium, but when supersaturated with acetic acid it gives with chloride of calcium a white precipitate, which is soluble in hydrochloric acid. Ten grains, when incinerated, lose 5·2 grains in weight.

Dose.—1 to 2 grains.

CETACEUM.

SPERMACETI.

Nearly pure cetine, obtained, mixed with oil, from the head of the Sperm Whale, Physeter macrocephalus, *Linn.*, inhabiting the Pacific and Indian Oceans. It is separated from the oil by filtration and pressure, and afterwards purified.

Characters and Tests.—Crystalline, pearly-white, glistening, translucent, with little taste or odour, reducible to powder by the addition of a little rectified spirit. Scarcely unctuous to the touch; does not melt under 100°.

Preparations.—Charta Epispastica, Unguentum Cetacei.

CETRARIA.

ICELAND MOSS.

The entire lichen, Cetraria islandica, *Acharius, Lichenogr.; Woodv. Med. Bot.* (*Lichen islandicus*), plate 205. Native of the North of Europe.

Characters.—Foliaceous, lobed, crisp, cartilaginous, brownish-white, paler beneath; taste, bitter, and mucilaginous. A strong decoction gelatinises on cooling.

Preparation.—Decoctum Cetrariæ, 1 ounce to 1 pint.

CHARTA EPISPASTICA.

Blistering Paper.

Take of

White Wax	4 ounces
Spermaceti	1½ ounce
Olive Oil	2 fluid ounces
Resin	¾ ounce
Canada Balsam	¼ ounce
Cantharides, in powder	1 ounce
Distilled Water	6 fluid ounces

Digest all the ingredients, excepting the Canada balsam, in a water-bath for two hours, stirring them constantly, then strain, and separate the plaster from the watery liquid. Mix the Canada balsam with the plaster melted in a shallow vessel, and pass strips of paper over the surface of the hot liquid, so that one surface of the paper shall receive a thin coating of plaster.

It may be convenient to employ paper ruled so as to indicate divisions each of which is one square inch.

CHIRATA.

Chiretta.

The entire plant, Ophelia Chirata, *Griseb.*; *Wallich, Plant. Asiat.* (*Gentiana Chirata*), vol. iii. plate 252. Collected in Northern India.

Characters.—Stems about three feet long, of the thickness of a goose-quill, round, smooth, pale-brown, branched; branches opposite; flowers small, numerous, panicled; the whole plant intensely bitter.

Preparations.

Infusum Chiratæ	½ ounce to 1 pint
Tinctura Chiratæ	2½ ounces to 1 pint

CHLOROFORMUM.

Chloroform.

C_2HCl_3 or $\mathbf{CHCl_3}$.

Take of

Chlorinated Lime	10 pounds
Rectified Spirit	30 fluid ounces
Slaked Lime	a sufficiency
Water	3 gallons
Sulphuric Acid	a sufficiency
Chloride of Calcium, in small fragments	2 ounces
Distilled Water	9 fluid ounces

Place the water and the spirit in a capacious still, and raise the mixture to the temperature of 100°. Add the chlorinated lime and five pounds of the slaked lime, mixing thoroughly. Connect the still with a condensing worm encompassed by cold water, and terminating in a narrow-necked receiver; and apply heat so as to cause distillation, taking care to withdraw the fire the moment that the process is well established. When the distilled product measures fifty ounces, the receiver is to be withdrawn. Pour its contents into a gallon bottle half filled with water, mix well by shaking, and set at rest for a few minutes, when the mixture will separate into two strata of different densities. Let the lower stratum, which constitutes crude chloroform, be washed by agitating it in a bottle with three ounces of the distilled water. Allow the chloroform to subside, withdraw the water, and repeat the washing with the rest of the distilled water, in successive quantities of three ounces at a time. Agitate the washed chloroform for five minutes in a bottle with an equal volume of sulphuric acid, allow the mixture to settle, and transfer the upper stratum of liquid to a flask containing the chloride of calcium mixed with half an ounce of slaked lime, which should be perfectly dry. Mix well by agitation. After the lapse of an hour connect the flask with a Liebig's condenser, and distil over the pure chloroform by means of a water-bath. Preserve the product in a cool place, in a bottle furnished with an accurately ground stopper.

The lighter liquid which floats on the crude chloroform after its agitation with water, and the washings with distilled water, should be preserved, and employed in a subsequent operation.

Characters and Tests.—A limpid colourless liquid, of an agreeable ethereal odour, and sweet taste. Dissolves in alcohol and ether in all proportions; and slightly in water, communicating to it a sweetish taste. Burns, though not readily, with a green and smoky flame. Specific gravity 1·49. It is not coloured by agitation with sulphuric acid, leaves no residue and no unpleasant odour after evaporation.

Dose.—3 to 10 minims.

Preparations.

Linimentum Chloroformi . . .	1 volume in 2
Spiritus Chloroformi . . .	1 volume in 20
Tinctura Chloroformi composita .	1 volume in 10

CINCHONÆ FLAVÆ CORTEX.

YELLOW-CINCHONA BARK.

The bark of Cinchona Calisaya, *Weddell, Hist. Nat. des Quinquinas,* plates 3, 3 bis, and 28. Collected in Bolivia and Southern Peru.

Characters.—In flat pieces, uncoated or deprived of the periderm, rarely in coated quills, from six to eighteen inches long, one to three inches wide, and two to four lines thick, compact and heavy; outer surface brown, marked by broad shallow irregular longitudinal depressions; inner surface tawny-yellow, fibrous; transverse fracture shortly and finely fibrous. Powder cinnamon-brown, somewhat aromatic, persistently bitter.

Test.—Boil 100 grains of the bark, reduced to very fine powder, for a quarter of an hour in a fluid ounce of distilled water acidulated with ten minims of hydrochloric acid; and allow it to macerate for twenty-four hours. Transfer the whole to a small percolator, and after the fluid has ceased to drop add at intervals about an ounce and a half of similarly acidulated water, or until the fluid which passes through is free from colour. Add to the percolated fluid solution of subacetate of lead, until the whole of the colouring matter has been removed, taking care that the fluid remains acid in reaction. Filter and wash with a little distilled water. To the filtrate add about thirty-five grains of caustic potash, or as much as will cause the precipitate which is at first formed to be nearly redissolved, and afterwards six fluid drachms of pure ether. Then shake briskly, and, having removed the ether, repeat the process twice with three fluid drachms of ether, or until a drop of the ether employed leaves on evaporation scarcely any perceptible residue. Lastly, evaporate the mixed ethereal solutions in a capsule. The residue, which consists of nearly pure Quinia, when dry, should weigh not less than 2 grains, and should be readily soluble in diluted sulphuric acid.

Dose, in powder.—10 to 60 grains.

Preparations.

Decoctum Cinchonæ flavæ	27½ grains to 1 fluid ounce
Extractum Cinchonæ flavæ liquidum	1 pound to 4 fluid ounces
Infusum Cinchonæ flavæ	22 grains to 1 fluid ounce
Quiniæ Sulphas	
Tinctura Cinchonæ flavæ	88 grains to 1 fluid ounce

CINCHONÆ PALLIDÆ CORTEX.

PALE-CINCHONA BARK.

The bark of Cinchona Condaminea, *DC. vars.* chahuarguera *Pavon*, and crispa *Tafalla*. *Howard's Illus-*

trations (*Cinchona Chahuarguera and C. crispa*), plates 1 and 2. Collected about Loxa in Ecuador.

Characters.—From half a line to a line thick, in single or double quills, which are from six to fifteen inches long, two to eight lines in diameter, brittle, easily splitting longitudinally, and breaking with a short transverse fracture; outer surface brown and wrinkled, or grey and speckled with adherent lichens, with or without numerous transverse cracks; inner surface bright orange or cinnamon-brown; powder pale brown, slightly bitter, very astringent.

Test.—200 grains of the bark, treated in the manner directed in the test for yellow cinchona bark, with the substitution of chloroform for ether, should yield not less than 1 grain of alkaloids.

Dose, in powder.—10 to 60 grains.

Preparation.

Mistura Ferri aromatica . .	1 ounce to 16 fluid ounces
Tinctura Cinchonæ composita .	44 grains to 1 fluid ounce

CINCHONÆ RUBRÆ CORTEX.

RED-CINCHONA BARK.

The bark of Cinchona succirubra *Pavon, MS. Nueva Quinologia. Howard's Illustrations,* plate 9. Collected on the western slopes of Chimborazo.

Characters.—In flat or incurved pieces, less frequently in quills, coated with the periderm, varying in length from a few inches to two feet, from one to three inches wide, and two to six lines thick, compact and heavy; outer surface brown or reddish-brown, rarely white from adherent lichens, rugged or wrinkled longitudinally, frequently warty, and crossed by deep transverse cracks; inner surface redder; fractured surface often approaching to brick-red; transverse fracture finely fibrous; powder red-brown; taste bitter and astringent.

Test.—100 grains of the bark, treated in the manner directed in the test for yellow cinchona bark, with the substitution of chloroform for ether, should yield not less than 1·5 grain of alkaloids.

Dose, in powder.—10 to 60 grains.

CINNAMOMI CORTEX.

Cinnamon Bark.

The inner bark of shoots from the truncated stocks of Cinnamomum zeylanicum, *Breyn.; Wight, Icon. Plant. Ind. Orient.* plate 123. Imported from Ceylon, and distinguished in commerce as Ceylon Cinnamon.

Characters.—About one-fifth of a line thick, in closely rolled quills, which are about four lines in diameter, containing several small quills within them, light yellowish-brown, with a fragrant odour and warm sweet aromatic taste: breaks with a splintery fracture.

Preparations.

Acidum Sulphuricum aromaticum	1 ounce to 1 pint
Aqua Cinnamomi	20 ounces to 1 gallon
Decoctum Hæmatoxyli	60 grains to 1 pint
Infusum Catechu	60 grains to 1 pint
Oleum Cinnamomi	
Pulvis Catechu compositus	1 part in 10
„ Cinnamomi compositus	1 part in 3
„ Cretæ aromaticus	1 part in 11
„ Kino compositus	1 part in 5
Tinctura Cardamomi composita	½ ounce to 1 pint
„ Catechu	1 ounce to 1 pint
„ Cinnamomi	2½ ounces to 1 pint
„ Lavandulæ composita	75 grains to 1 pint
Vinum Opii	75 grains to 1 pint

COCCUS.

Cochineal.

The dried female insect, Coccus Cacti, *Linn.* Reared in Mexico and Teneriffe.

Characters.—Ovate, plano-convex, about two lines long, wrinkled, black or greyish-white; yields, when crushed, a puce-coloured powder. The greyish-white insect quickly becomes black when warmed before the fire.

Preparations.

Tinctura Cardamomi composita	60 grains to 1 pint
,, Cinchonæ composita	30 grains to 1 pint
,, Cocci	2½ ounces to 1 pint

COLCHICI CORMUS.

Colchicum Corm.

The fresh corm of Colchicum autumnale, *Linn.; Woodv. Med. Bot.* plate 177; collected about the end of June; and the same stripped of its coats, sliced transversely, and dried at a temperature not exceeding 150°.

Characters.—Fresh corm about the size of a chestnut, flattened where it has an undeveloped bud; furnished with an outer brown and an inner yellow coat; internally white, solid and fleshy; yielding when cut a milky acrid and bitter juice. Dried slices about a line thick, moderately indented on one, rarely on both sides, firm, flat, whitish, amylaceous.

Dose in powder.—2 to 8 grains.

Preparations.

Extractum Colchici	
,, ,, aceticum	
Vinum Colchici	88 grains to 1 fluid ounce

COLCHICI SEMINA.

Colchicum Seeds.

The fully ripe seeds of Colchicum autumnale, *Linn.*

Characters.—About the size of white mustard seed, very hard, and of a reddish-brown colour.

Preparation.—Tinctura Colchici seminum, 54½ grains to 1 fluid ounce.

COLLODIUM.

Collodion.

Take of

Pyroxylin	1 ounce
Ether	36 fluid ounces
Rectified Spirit	12 fluid ounces

Mix the ether and the spirit, and add the pyroxylin. Set aside for a few days, and, should there be any sediment, decant the clear solution. Keep it in a well-corked bottle.

Characters.—A colourless highly inflammable liquid with ethereal odour, which dries rapidly upon exposure to the air, and leaves a thin transparent film, insoluble in water or rectified spirit.

Preparation.—Collodium flexile.

COLLODIUM FLEXILE.

Flexible Collodion.

Take of

Collodion	6 fluid ounces
Canada Balsam	120 grains
Castor Oil	1 fluid drachm

Mix, and keep in a well-corked bottle.

COLOCYNTHIDIS PULPA.

Colocynth Pulp.

The dried decorticated fruit, freed from seeds, of Citrullus Colocynthis, *Schrad.; Woodv. Med. Bot.* (*Cucumis Colocynthis*), plate 175. Imported chiefly from Smyrna, Trieste, France, and Spain.

Characters.—Light, spongy, white or yellowish-white in colour, intensely bitter in taste.

Dose, in powder.—2 to 8 grains.

Preparations.

Extractum Colocynthidis compositum	1 part to $4\frac{1}{2}$ nearly
Pilula Colocynthidis composita	1 part in 6 nearly
,, ,, et Hyoscyami	1 part in 9 nearly

CONFECTIO OPII.

CONFECTION OF OPIUM.

Take of

Compound Powder of Opium	192 grains
Syrup	1 fluid ounce

Mix.

Dose.—5 to 20 grains.

CONFECTIO PIPERIS.

CONFECTION OF PEPPER.

Synonym.—ELECTUARIUM PIPERIS, *Edin.*

Take of

Black Pepper in fine powder	2 ounces
Caraway Fruit in fine powder	3 ounces
Clarified Honey	15 ounces

Rub them well together in a mortar.

Dose.—60 to 120 grains.

CONFECTIO ROSÆ CANINÆ.

Confection of Hips.

Take of

Hips deprived of their seeds	1 pound
Refined Sugar	2 pounds

Beat the hips to a pulp in a stone mortar, and rub the pulp through a sieve, then add the sugar, and rub them well together.

Preparation.

Pilula Quiniæ	1 part in 4

CONFECTIO ROSÆ GALLICÆ.

Confection of Roses.

Take of

Fresh Red-Rose Petals	1 pound
Refined Sugar	3 pounds

Beat the petals to a pulp in a stone mortar, add the sugar, and rub them well together.

Preparations.

Pilula Aloes Barbadensis
,, ,, et Assafœtidæ
,, ,, et Ferri
,, ,, et Myrrhæ

Pilula Aloes Socotrinæ
,, Ferri Carbonatis
,, Hydrargyri
,, Plumbi cum Opio

CONFECTIO SCAMMONII.

Confection of Scammony.

Take of

Scammony, in fine powder	3 ounces
Ginger, in fine powder	1½ ounce
Oil of Caraway	1 fluid drachm
Oil of Cloves	½ fluid drachm
Syrup	3 fluid ounces
Clarified Honey	1½ ounce

Rub the powders with the syrup and the honey into a uniform mass, then add the oils, and mix.

Dose.—10 to 30 grains.

CONFECTIO SENNÆ.

CONFECTION OF SENNA.

Take of

Senna, in fine powder	7 ounces
Coriander Fruit, in fine powder	3 ounces
Figs	12 ounces
Tamarind	9 ounces
Cassia Pulp	9 ounces
Prunes	6 ounces
Extract of Liquorice	¾ ounce
Refined Sugar	30 ounces
Distilled Water	a sufficiency

Boil the figs and prunes gently with twenty-four ounces of distilled water in a covered vessel for four hours, then, having added more distilled water to make up the quantity to its original volume, mix the tamarind and cassia pulp, digest for two hours, and rub the softened pulp of the fruits through a hair sieve, rejecting the seeds and other hard parts. To the pulped product add the sugar and extract of liquorice, and dissolve them with a gentle heat; while the mixture is still warm, add to it gradually the mixed senna and coriander powders, and mix the whole thoroughly, making the weight of the resulting confection seventy-five ounces either by evaporation or by the addition of more distilled water.

Dose.—60 to 120 grains.

CONFECTIO SULPHURIS.

CONFECTION OF SULPHUR.

Take of

Sublimed Sulphur	4 ounces
Acid Tartrate of Potash, in powder	1 ounce
Syrup of Orange Peel	4 fluid ounces

Rub them well together.

Dose.—60 to 120 grains.

CONFECTIO TEREBINTHINÆ.

Confection of Turpentine.

Take of

Oil of Turpentine	1 fluid ounce
Liquorice Root, in powder	1 ounce
Clarified Honey	2 ounces

Rub the oil of turpentine with the liquorice, add the honey, and mix to a uniform consistence.

Dose.—60 to 120 grains.

CONII FOLIA.

Hemlock Leaves.

The fresh leaves and young branches of Spotted Hemlock, Conium maculatum, *Linn.*, *Flor. Lond.* plate 17, fasc. ii.; also the leaves separated from the branches and carefully dried; gathered from wild British plants when the fruit begins to form.

Characters.—Fresh leaves decompound, smooth, arising from a smooth stem with dark purple spots; dried leaves of a full green colour and characteristic odour. The leaf rubbed with solution of potash gives out strongly the odour of conia.

Dose, in powder.—2 to 8 grains.

Preparations.

Cataplasma Conii
Extractum Conii
Succus Conii

CONII FRUCTUS.

Hemlock Fruit.

The dried ripe fruit of Conium maculatum, *Linn.*, Spotted Hemlock.

Characters.—Broadly ovate, compressed laterally; half-fruit with five waved or crenated ridges. Reduced to powder and rubbed with solution of potash, they give out strongly the odour of conia.

Preparation.—Tinctura Conii, 54½ grains to 1 fluid ounce.

COPAIBA.

Copaiva.

The oleo-resin obtained from incisions made in the trunk of Copaifera multijuga, *Hayne*; and other species of Copaifera. Chiefly from the valley of the Amazon.

Characters and Tests.—About the consistence of olive oil, light yellow, transparent, with a peculiar odour, and an acrid aromatic taste. Perfectly soluble in an equal volume of benzol. Does not become gelatinous after having been heated to 270°. Is not fluorescent.

Dose.—½ to 1 fluid drachm.

Preparation.—Oleum Copaibæ.

CORIANDRI FRUCTUS.

Coriander Fruit.

The dried ripe fruit of Coriandrum sativum, *Linn.; Woodv. Med. Bot.* plate 181. Cultivated in Britain.

Characters.—Globular, nearly as large as white pepper, beaked, finely ribbed, yellowish-brown; has an agreeable aromatic odour and flavour.

Preparations.

Confectio Sennæ . . .	1 part in 25
Mistura Gentianæ . . .	60 grains to 1 pint
Oleum Coriandri	
Syrupus Rhei	
Tinctura Rhei	¼ ounce to 1 pint
,, Sennæ . . .	½ ounce to 1 pint

CREASOTUM.

CREASOTE.

A product of the distillation of Wood Tar.

Characters and Tests.—A liquid, colourless or with a yellowish tinge, and a strong empyreumatic odour. It is sparingly dissolved by water, but freely by alcohol, ether, and glacial acetic acid. Specific gravity 1·071. It coagulates albumen. A slip of deal dipped into it, and afterwards into hydrochloric acid, acquires on exposure for a short time to the air a greenish-blue colour. Dropped on white filtering paper and exposed to a heat of 212°, it leaves no translucent stain. It turns the plane of polarisation of a ray of polarised light to the right. It is not solidified by the cold produced by a mixture of hydrochloric acid and sulphate of soda.

Dose.—1 to 3 drops.

Preparations.

Mistura Creasoti . .	1 minim in 1 fluid ounce
Unguentum Creasoti .	1 part in 9
Vapor Creasoti	

CRETA.

CHALK.

Native friable carbonate of lime.

Preparation.—Creta Præparata.

Used in producing carbonic acid gas.

CRETA PRÆPARATA.

PREPARED CHALK.

Chalk, freed from most of its impurities by elutriation, and afterwards dried in small masses, which are usually of a conical form.

Characters and Tests.—A white amorphous powder, effervescing with acids, and dissolving with only a slight residue, in diluted hydrochloric acid. This solution, when supersaturated with solution of ammonia, gives, upon the addition of oxalate of ammonia, a copious white precipitate. The salt formed by dissolving the prepared chalk in hydrochloric acid, if rendered neutral by evaporation to dryness and redissolved in water, gives only a very scanty precipitate on the addition of saccharated solution of lime.

Dose.—10 to 60 grains.

Preparations.

Hydrargyrum cum Creta . . .	2 parts in 3
Mistura Cretæ	1 part in 32
Pulvis Cretæ aromaticus . . .	1 part in 4
,, ,, ,, cum Opio .	1 part in 4, nearly

CROCUS.

SAFFRON.

The dried stigma, and part of the style, of Crocus sativus, *Linn.; Steph. and Church. Med. Bot.* plate 101. Imported from Spain, France, and Italy.

Characters.—Thread-like styles, each terminated by three long orange-brown stigmas, broadest at the summit. Has a powerful aromatic odour. Rubbed on the wet finger it leaves an intense orange yellow tint. When pressed between folds of white filtering paper, it leaves no oily stain.

Preparations.

Decoctum Aloes compositum .	3 grains to 1 fluid ounce
Pilula Aloes et Myrrhæ . .	1 part in 12
Pulvis Cretæ aromaticus . .	1 part in 15, nearly
Tinctura Cinchonæ composita .	60 grains to 1 pint
,, Croci	1 ounce to 1 pint
,, Opii Ammoniata .	180 grains to 1 pint
,, Rhei	$\frac{1}{4}$ ounce to 1 pint

CUBEBA.

CUBEBS.

The dried unripe fruit of Cubeba officinalis, *Miquel, Comment.; Steph. and Church. Med. Bot.* plate 175. Cultivated in Java.

Characters.—The size of black pepper, globular, wrinkled, blackish, supported on a stalk of rather more than its own length; has a warm camphoraceous taste and characteristic odour.

Dose, in powder.—30 to 120 grains.

Preparations.

Oleum Cubebæ	
Tinctura Cubebæ . . .	2½ ounces to 1 pint

CUPRI SULPHAS.

SULPHATE OF COPPER.

CuO,SO_3+5HO or $\mathbf{CuSO_4.5H_2O}$.

May be obtained by heating sulphuric acid and copper together, dissolving the soluble product in hot water, and evaporating the solution until crystallisation takes place on cooling.

Characters and Tests.—A blue crystalline salt, in oblique prisms, soluble in water, forming a pale blue solution which strongly reddens litmus. The aqueous solution gives with chloride of barium a white precipitate insoluble in hydrochloric acid, and a maroon-red precipitate with yellow prussiate of potash. If an aqueous solution of the salt be mixed with twice its volume of solution of chlorine, and solution of ammonia be added, the precipitate formed by the first addition of the ammonia will be dissolved by a further and sufficient addition of the alkali, and a violet-bluo solution will be produced, leaving nothing undissolved.

Dose.—As an astringent, ¼ grain to 2 grains; as an emetic, 5 to 10 grains.

CUPRUM.

Copper.

Fine copper wire, about No. 25.

Preparation containing Copper.—Cupri Sulphas.

Preparation in which Copper is used.—Spiritus Ætheris Nitrosi.

CUSPARIÆ CORTEX.

Cusparia Bark.

The bark of Galipea Cusparia, *D C.; Steph. and Church. Med. Bot.* (*Bonplandia trifoliata*), plate 149. From ropical South America.

Characters and Test.—In straight pieces more or less incurved at the sides, from half a line to a line in thickness, pared away at the edges; epidermis mottled, brown or yel-owish-grey; inner surface yellowish-brown, flaky; breaks with a short fracture; the taste is bitter and slightly aromatic. The cut surface examined with a lens usually exhibits numerous white points or minute lines. The inner surface touched with nitric acid does not become blood-red.

Preparation.

Infusum Cuspariæ . . . 1 ounce to 1 pint

CUSSO.

Kousso.

The flowers and tops of Brayera anthelmintica, *DC.*; *Hooker's Journ. Bot.*, 3rd ser. vol. ii. plate 10. Collected in Abyssinia.

Characters.—Flowers small, reddish-brown, on hairy stalks, outer limb of calyx five-parted, the segments oblong or oblong-lanceolate reticulated.

Dose.—$\frac{1}{4}$ to $\frac{1}{2}$ ounce.

Preparation.

Infusum Cusso . . $\frac{1}{4}$ ounce to 4 fluid ounces

DECOCTUM ALOES COMPOSITUM.

Compound Decoction of Aloes.*

Take of

Extract of Socotrine Aloes . .	120 grains
Myrrh Saffron } of each	90 grains
Carbonate of Potash . . .	60 grains
Extract of Liquorice . . .	1 ounce
Compound Tincture of Cardamoms	8 fluid ounces
Distilled Water	a sufficiency

Reduce the extract of aloes and myrrh to coarse powder, and put them together with the carbonate of potash and extract o liquorice into a suitable covered vessel with a pint of distilled water; boil gently for five minutes, then add the saffron. Let the vessel with its contents cool, then add the tincture of cardamoms, and covering the vessel closely, allow the ingredients to macerate for two hours; finally, strain through flannel, pouring as much distilled water over the contents of the strainer as will make the strained product measure thirty fluid ounces.

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* This decoction contains 4 grains of extract of aloes in a fluid ounce, while that of the Pharmacopœia of 1864 contained 5·6 grains, and that of the *Lond. Ph.* contained 3·3 grains.

Dose.—$\frac{1}{2}$ to 2 fluid ounces.

DECOCTUM CETRARIÆ.

DECOCTION OF ICELAND MOSS.

Take of

Iceland Moss	1 ounce
Distilled Water	1 pint

Wash the moss in cold water, to remove impurities; boil it with the distilled water for ten minutes in a covered vessel, and strain, with gentle pressure, while hot; then pour distilled water over the contents of the strainer until the strained product measures a pint.

DECOCTUM CINCHONÆ FLAVÆ.

DECOCTION OF YELLOW-CINCHONA.

Take of

Yellow-Cinchona Bark, in coarse powder .	$1\frac{1}{4}$ ounce
Distilled Water	1 pint

Boil for ten minutes in a covered vessel. Strain the decoction, when cold, and pour as much distilled water over the contents of the strainer as will make the strained product measure one pint.

Dose.—1 to 2 fluid ounces.

DECOCTUM GRANATI RADICIS.

Decoction of Pomegranate Root.

Take of

Pomegranate Root Bark, sliced	2 ounces
Distilled Water	2 pints

Boil down to a pint, and strain, making the strained product up to a pint, if necessary, by pouring distilled water over the contents of the strainer.

Dose.—1 to 2 fluid ounces.

DECOCTUM HÆMATOXYLI.

Decoction of Logwood.

Take of

Logwood, in chips	1 ounce
Cinnamon Bark, in coarse powder	60 grains
Distilled Water	1 pint

Boil the logwood in the water for ten minutes in a covered vessel, adding the cinnamon towards the end. Strain the decoction, and pour as much distilled water over the contents of the strainer as will make the strained product measure a pint.

Dose.—1 to 2 fluid ounces.

DECOCTUM HORDEI.

Decoction of Barley

Take of

Pearl Barley	2 ounces
Distilled Water	1½ pint

Wash the barley in cold water, and reject the washings; boil the washed barley with the distilled water for twenty minutes in a covered vessel, and strain.

DECOCTUM PAPAVERIS.

Decoction of Poppies.

Take of

Poppy Capsules, bruised	2 ounces
Distilled Water	1½ pint

Boil for ten minutes in a covered vessel, then strain, and pour as much distilled water over the contents of the strainer as will make the strained product measure a pint.

DECOCTUM PAREIRÆ.

Decoction of Pareira.

Take of

Pareira Root, sliced	1½ ounce
Distilled Water	1 pint

Boil for fifteen minutes in a covered vessel, then strain, and pour as much distilled water over the contents of the strainer as will make the strained product measure a pint.

Dose.—1 to 2 fluid ounces.

DECOCTUM QUERCUS.

Decoction of Oak Bark.

Take of

Oak Bark, bruised	1¼ ounce
Distilled Water	1 pint

Boil for ten minutes in a covered vessel, then strain and pour as much distilled water over the contents of the strainer as will make the strained product measure a pint.

DECOCTUM SARSÆ.

Decoction of Sarsaparilla.

Take of

Jamaica Sarsaparilla, cut transversely .	2½ ounces
Boiling Distilled Water . . .	1½ pint

Digest the sarsaparilla in the water for an hour, then boil for ten minutes in a covered vessel, cool and strain, pouring distilled water, if required, over the contents of the strainer, or otherwise making the strained product measure a pint.

Dose.—2 to 10 fluid ounces.

DECOCTUM SARSÆ COMPOSITUM.

Compound Decoction of Sarsaparilla.

Take of

Jamaica Sarsaparilla, cut transversely .		2½ ounces
Sassafras Root in chips .	each .	¼ ounce
Guaiacum Wood turnings .		
Fresh Liquorice Root, bruised		
Mezereon Bark		60 grains
Boiling Distilled Water . . .		1½ pint

Digest the solid ingredients in the water for an hour, then boil for ten minutes in a covered vessel; cool and strain, pouring distilled water, if required, over the contents of the strainer, or otherwise making the strained product measure a pint.

Dose.—2 to 10 fluid ounces.

DECOCTUM SCOPARII.

Decoction of Broom.

Take of

Broom Tops, dried	1 ounce
Distilled Water	1 pint

Boil for ten minutes in a covered vessel, then strain and pour as much distilled water over the contents of the strainer as will make the strained product measure a pint.

Dose.—2 to 4 fluid ounces.

DECOCTUM TARAXACI.

Decoction of Dandelion.

Take of

Dried Dandelion Root, sliced and bruised	1 ounce
Distilled Water	1 pint

Boil for ten minutes in a covered vessel, then strain and pour as much distilled water over the contents of the strainer as will make the strained product measure a pint.

Dose.—2 to 4 fluid ounces.

DECOCTUM ULMI.

Decoction of Elm Bark.

Take of

Elm Bark, cut in small pieces . .	2½ ounces
Distilled Water	1 pint

Boil for ten minutes in a covered vessel, then strain and pour as much distilled water over the contents of the strainer as will make the strained product measure a pint.

Dose.—2 to 4 fluid ounces.

DIGITALINUM.

Digitalin.

Take of

Digitalis Leaf, in coarse powder . .	40 ounces
Rectified Spirit . . .	of each a sufficiency
Distilled Water . . .	
Acetic Acid . . .	
Purified Animal Charcoal .	
Solution of Ammonia . .	
Tannic Acid . . .	
Oxide of Lead, in fine powder	
Pure Ether	

Digest the digitalis with a gallon of the spirit, for twenty four hours, at a temperature of 120°, then put them into a percolator, and when the tincture has ceased to drop, pour a gallon of spirit on the contents of the percolator, and allow it slowly to percolate through. Distil off the greater part of the spirit from the tincture, and evaporate the remainder over a water-bath until the whole of the alcohol has been dissipated. Mix the residual extract with five ounces of distilled water, to which half an ounce of acetic acid has been previously added, and digest the solution thus formed with a quarter of an ounce of purified animal charcoal, then filter and dilute the filtrate with distilled water until it measures a pint. Add solution of ammonia nearly to neutralisation, and afterwards add one hundred and sixty grains of tannic acid dissolved in three ounces of distilled water. Wash the precipitate that will be formed with a little distilled water; mix it with a small quantity of the spirit and a quarter of an ounce of the oxide of lead, and rub them together in a mortar. Place the mixture in a flask, and add to it four ounces of the spirit; raise the temperature to 160°, and keep it at this heat for about an hour; then add a quarter of an ounce of purified animal charcoal; put it on a filter, and from the filtrate carefully drive off the spirit by the heat of a water-bath. Lastly, wash the residue repeatedly with pure ether.

Characters and Tests.—In porous mammillated masses or small scales, white, inodorous, and intensely bitter; readily soluble in spirit, but almost insoluble in water and in pure ether; dissolves in acids, but does not form with them neutral compounds; its solution in hydrochloric acid is of a faint yellow colour, but rapidly becomes green. It leaves no residue when burned with free access of air. It powerfully irritates the nostrils, and is an active poison.

Dose.—$\frac{1}{60}$ to $\frac{1}{30}$ of a grain.

DIGITALIS FOLIA.

DIGITALIS LEAF.

The dried leaf of Digitalis purpurea, *Linn.* Purple Foxglove. *Woodv. Med. Bot.* plate 24. Collected from wild indigenous plants, when about two thirds of the flowers are expanded.

Characters.—Ovate-lanceolate, shortly petiolate, rugose, downy, paler on the under surface, crenate.

Dose, in powder.—$\frac{1}{2}$ to $1\frac{1}{2}$ grain.

Preparations.

Digitalinum	
Infusum Digitalis . . .	3 grains to 1 fluid ounce
Tinctura Digitalis . . .	$54\frac{1}{2}$ grains to 1 fluid ounce

DULCAMARA.

DULCAMARA.

The dried young branches of Solanum Dulcamara, *Linn.* Bitter-sweet. *Woodv. Med. Bot.* plate 33. From indigenous plants which have shed their leaves.

Characters.—Light, hollow, cylindrical, about the thickness of a goose-quill, bitter and subsequently sweetish to the taste.

Preparation.

Infusum Dulcamaræ . . .	2 ounces to 1 pint

ECBALII FRUCTUS.

SQUIRTING CUCUMBER FRUIT.

The fruit, very nearly ripe, of the Squirting Cucumber, Ecbalium Officinarum, *Richard. Steph. and Church. Med. Bot.* plate 34.

ELATERIUM.

ELATERIUM.

Synonym.—EXTRACTUM ELATERII, *Lond.*

A sediment from the juice of the Squirting Cucumber fruit.

Take of

Squirting Cucumber Fruit, very nearly ripe	1 pound

Cut the fruit lengthwise, and lightly press out the juice. Strain it through a hair sieve; and set it aside to deposit. Carefully pour off the supernatant liquor; pour the sediment on a linen filter; and dry it on porous tiles with a gentle heat. The decanted fluid may deposit a second portion of sediment, which can be dried in the same way.

Characters and Tests.—In light friable slightly incurved cakes, about one line thick, greenish-grey, acrid and bitter; fracture finely granular. Does not effervesce with acids; yields half its weight to boiling rectified spirit. This solution concentrated and added to warm solution of potash, yields on cooling not less than twenty per cent. of elaterine in colourless crystals.

Dose.—$\frac{1}{16}$ to $\frac{1}{2}$ grain.

ELEMI.

ELEMI.

A concrete resinous exudation, the botanical source of which is undetermined, but is probably Canarium commune, *Linn.; Rumph. Amb.* vol. ii. plate 47. Chiefly imported from Manilla.

Characters.—A soft unctuous adhesive mass, becoming harder and more resinous by age; of a yellowish-white colour, with a rather fragrant fennel-like odour; almost entirely soluble in rectified spirit.

Preparation.

Unguentum Elemi	1 part in 5

EMPLASTRUM AMMONIACI CUM HYDRARGYRO.

AMMONIACUM AND MERCURY PLASTER.

Take of

Ammoniacum	12 ounces
Mercury	3 ounces
Olive Oil	1 fluid drachm
Sublimed Sulphur . . .	8 grains

Heat the oil, and add the sulphur to it gradually, stirring till they unite. With this mixture triturate the mercury, until globules are no longer visible; and, lastly, add the ammoniacum, previously liquefied, mixing the whole carefully.

EMPLASTRUM BELLADONNÆ.

Belladonna Plaster.

Take of

Extract of Belladonna	of each	3 ounces
Resin Plaster		
Rectified Spirit		6 fluid ounces

Rub the extract and spirit together in a mortar, and when the insoluble matter has subsided, decant the clear solution, remove the spirit by distillation or evaporation, and mix the alcoholic extract thus obtained with the resin plaster melted by the heat of a water-bath, continuing the heat until with constant stirring the plaster has acquired a suitable consistence.

EMPLASTRUM CALEFACIENS.

Warm Plaster.

Take of

Cantharides in coarse powder	of each	4 ounces
Expressed Oil of Nutmeg		
Yellow Wax		
Resin		
Soap Plaster		3¼ pounds
Resin Plaster		2 pounds
Boiling Water		1 pint

Infuse the cantharides in the boiling water for six hours; squeeze strongly through calico, and evaporate the expressed liquid by a water-bath till reduced to one third. Then add the other ingredients, and melt in a water-bath, stirring well until the whole is thoroughly mixed.

EMPLASTRUM CANTHARIDIS.

Cantharides Plaster.

Take of

Cantharides in powder		12 ounces
Yellow Wax	of each	7½ ounces
Prepared Suet		
Prepared Lard		6 ounces
Resin		3 ounces

Liquefy the wax, suet, and lard together by a water-bath, and add the resin, previously melted; then introduce the cantharides, mix the whole thoroughly, and continue to stir the mixture while it is allowed to cool.

EMPLASTRUM CERATI SAPONIS.

Soap Cerate Plaster.

Take of

Hard Soap, in powder . . .	10 ounces
Yellow Wax	12½ ounces
Olive Oil	1 pint
Oxide of Lead	15 ounces
Vinegar	1 gallon

Boil the vinegar and oxide of lead together, by the heat of a steam-bath, constantly stirring them until the oxide has combined with the acid; then add the soap and boil again until most of the moisture is evaporated; finally, add the wax and oil melted together, and stir the whole continuously, maintaining the heat until by the evaporation of the remaining moisture the product has acquired the proper consistence for a plaster.

EMPLASTRUM FERRI.

Chalybeate Plaster.

Take of

Hydrated Peroxide of Iron, in fine powder	1 ounce
Burgundy Pitch	2 ounces
Lead Plaster	8 ounces

Add the peroxide of iron to the Burgundy pitch and lead plaster, previously melted together, and stir the mixture constantly till it stiffens on cooling.

EMPLASTRUM GALBANI.

Galbanum Plaster.

Take of

Galbanum	of each 1 ounce
Ammoniacum	
Yellow Wax	
Lead Plaster	8 ounces

Melt the galbanum and ammoniacum together, and strain. Then add them to the lead plaster, and wax, also previously melted together, and mix the whole thoroughly.

EMPLASTRUM HYDRARGYRI.

Mercurial Plaster.

Take of

Mercury	3 ounces
Olive Oil	1 fluid drachm
Sublimed Sulphur	8 grains
Lead Plaster	6 ounces

Heat the oil and add the sulphur to it gradually, stirring until they unite; with this mixture triturate the mercury until globules are no longer visible, then add the lead plaster, previously liquefied, and mix the whole thoroughly.

EMPLASTRUM OPII.

Opium Plaster.

Take of

Opium, in fine powder	1 ounce
Resin Plaster	9 ounces

Melt the resin plaster by means of a water-bath; then add the opium by degrees, and mix thoroughly.

EMPLASTRUM PICIS.

PITCH PLASTER.

Take of

Burgundy Pitch		26 ounces
Common Frankincense		13 ounces
Resin Yellow Wax	of each	4½ ounces
Expressed Oil of Nutmeg		1 ounce
Olive Oil Water	of each	2 fluid ounces

Add the oils and the water to the frankincense, Burgundy pitch, resin, and wax, previously melted together; then, constantly stirring, evaporate to a proper consistence.

EMPLASTRUM PLUMBI.

LEAD PLASTER.

Synonym.—EMPLASTRUM LITHARGYRI, 1864.

Take of

Oxide of Lead, in fine powder	4 pounds
Olive Oil	1 gallon
Water	3½ pints

Boil all the ingredients together gently by the heat of a steam-bath, and keep them simmering for four or five hours, stirring constantly until the product acquires a proper consistence for a plaster, and adding more water during the process if necessary.

Preparations.

Emplastrum Ferri
„ Galbani
„ Hydrargyri
Emplastrum Resinæ
„ Saponis

EMPLASTRUM PLUMBI IODIDI.

Iodide of Lead Plaster.

Take of

Iodide of Lead	1 ounce
Soap Plaster Resin Plaster } of each	4 ounces

Add the iodide of lead in fine powder to the plasters previously melted, and mix them intimately.

EMPLASTRUM RESINÆ.

Resin Plaster.

Take of

Resin	4 ounces
Lead Plaster	2 pounds
Hard Soap	2 ounces

To the lead plaster, previously melted with a gentle heat, add the resin and soap, first liquefied, and stir them until they are thoroughly mixed.

Preparations.

Emplastrum Belladonnæ
„ Calefaciens
Emplastrum Opii
„ Plumbi Iodidi

EMPLASTRUM SAPONIS.

Soap Plaster.

Take of

Hard Soap	6 ounces
Lead Plaster	$2\frac{1}{4}$ pounds
Resin	1 ounce

To the lead plaster, melted by a gentle heat, add the soap and the resin, first liquefied; then, constantly stirring, evaporate to a proper consistence.

Preparations.

Emplastrum Calefaciens
Emplastrum Plumbi Iodidi

ENEMA ALOES.

Enema of Aloes.

Take of

Aloes	40 grains
Carbonate of Potash	15 grains
Mucilage of Starch	10 fluid ounces

Mix, and rub together.

ENEMA ASSAFŒTIDÆ.

Enema of Assafœtida.

Synonym.—Enema fœtidum, *Edin. Dubl.*

Take of

Assafœtida	30 grains
Distilled Water	4 fluid ounces

Rub the assafœtida in a mortar with the water added gradually, so as to form an emulsion.

ENEMA MAGNESIÆ SULPHATIS.

Enema of Sulphate of Magnesia.

Synonym.—Enema catharticum, *Edin. Dubl.*

Take of

Sulphate of Magnesia	1 ounce
Olive Oil	1 fluid ounce
Mucilage of Starch	15 fluid ounces

Dissolve the sulphate of magnesia in the mucilage of starch, add the oil, and mix.

ENEMA OPII.

Enema of Opium.

Take of

Tincture of Opium	$\frac{1}{2}$ fluid drachm
Mucilage of Starch	2 fluid ounces

Mix.

ENEMA TABACI.

Enema of Tobacco.

Take of

Leaf Tobacco	20 grains	12
Boiling Water	8 fluid ounces	64

Infuse in a covered vessel, for half an hour, and strain.

ENEMA TEREBINTHINÆ.

Enema of Turpentine.

Take of

Oil of Turpentine	1 fluid ounce
Mucilage of Starch	15 fluid ounces

Mix.

ERGOTA.

Ergot.

The sclerotium (compact mycelium or spawn) of Claviceps purpurea, *Tulasne,* produced within the paleæ of the common rye, Secale cereale, *Linn.; Steph. and Church. Med. Bot.* plate 113.

Characters.—Subtriangular, curved, with a longitudinal furrow on the concave side, obtuse at the ends; from one-third of an inch to an inch and a half in length; of a violet-brown colour on the surface, pinkish within, solid, frangible, fracture short, odour faintly marked, but strong if the powder be triturated with solution of potash.

Dose.—20 to 30 grains.

Preparations.

Extractum Ergotæ liquidum	1 ounce to 1 fluid ounce
Infusum Ergotæ	11 grains to 1 fluid ounce
Tinctura Ergotæ	109 grains to 1 fluid ounce

ESSENTIA ANISI.

Essence of Anise.*

Take of

Oil of Anise	1 fluid ounce
Rectified Spirit	4 fluid ounces

Mix.

Dose.—10 to 20 minims.

ESSENTIA MENTHÆ PIPERITÆ.

Essence of Peppermint.*

Take of

Oil of Peppermint	1 fluid ounce
Rectified Spirit	4 fluid ounces

Mix.

Dose.—10 to 20 minims.

EXTRACTUM ACONITI.

Extract of Aconite.

Take of

The fresh Leaves and flowering Tops of Aconite	112 pounds

Bruise in a stone mortar, and press out the juice; heat it gradually to 130°, and separate the green colouring matter by a calico filter. Heat the strained liquor to 200° to coagulate the albumen, and again filter. Evaporate the filtrate by a water-bath to the consistence of a thin syrup; then add to it the green colouring matter previously separated, and, stirring the whole together assiduously, continue the evaporation at a temperature not exceeding 140°, until the extract is of a suitable consistence for forming pills.

Dose.—1 to 2 grains.

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* This is double the strength of the preparation of the same name in the Dubl. Pharm.

EXTRACTUM ALOES BARBADENSIS.

EXTRACT OF BARBADOES ALOES.

Take of

Barbadoes Aloes, in small fragments	1 pound
Boiling Distilled Water	1 gallon

Add the aloes to the water, and stir well until they are thoroughly mixed. Set aside for twelve hours; then pour off the clear liquor, strain the remainder, and evaporate the mixed liquors by a water-bath or a current of warm air to dryness.

Dose.—2 to 6 grains.

EXTRACTUM ALOES SOCOTRINÆ.

EXTRACT OF SOCOTRINE ALOES.

Take of

Socotrine Aloes, in small fragments	1 pound
Boiling Distilled Water	1 gallon

Add the aloes to the water, and stir well until they are thoroughly mixed. Set aside for twelve hours; then pour off the clear liquor, strain the remainder, and evaporate the mixed liquors by a water-bath or a current of warm air to dryness.

Dose.—2 to 6 grains.

Preparations.

Decoctum Aloes compositum	4 grains in 1 fluid ounce
Extractum Colocynthidis compositum	1 part in $2\frac{1}{4}$ nearly

EXTRACTUM ANTHEMIDIS.

EXTRACT OF CHAMOMILE.

Take of

Chamomile Flowers	1 pound
Oil of Chamomile	15 minims
Distilled Water	1 gallon

Boil the chamomile with the water until the volume is reduced to one half, then strain, press, and filter. Evaporate the liquor by a water-bath until the extract is of a suitable consistence for forming pills, adding the oil of chamomile at the end of the process.

Dose.—2 to 10 grains.

EXTRACTUM BELÆ LIQUIDUM.

Liquid Extract of Bael.

Take of

Bael Fruit	1 pound
Distilled Water	12 pints
Rectified Spirit	2 fluid ounces

Macerate the bael for twelve hours in one-third of the water; pour off the clear liquor; repeat the maceration a second and third time for one hour in the remaining two-thirds of the water; press the marc; and filter the mixed liquors through flannel. Evaporate to fourteen fluid ounces, and, when cold, add the rectified spirit.

Dose.—1 to 2 fluid drachms.

EXTRACTUM BELLADONNÆ.

Extract of Belladonna.

Take of

The fresh Leaves and young Branches of Belladonna	112 pounds

Bruise in a stone mortar, and press out the juice; heat it gradually to 130°, and separate the green colouring matter by a calico filter. Heat the strained liquor to 200° to coagulate the albumen, and again filter. Evaporate the filtrate by a water-bath to the consistence of a thin syrup; then add to it the green colouring matter previously separated, and, stirring the whole together assiduously, continue the evaporation at a temperature not exceeding 140°, until the extract is of a suitable consistence for forming pills.

Dose.—$\frac{1}{4}$ to 1 grain.

Preparations.

Emplastrum Belladonnæ | Unguentum Belladonnæ

EXTRACTUM CALUMBÆ.

EXTRACT OF CALUMBA.

Take of

Calumba Root, cut small	1 pound
Distilled Water	4 pints

Macerate the calumba with two pints of the water for twelve hours, strain and press. Macerate again with the same quantity of water, strain and press as before. Mix and filter the liquors, and evaporate them by the heat of a water-bath until the extract is of a suitable consistence for forming pills.

Dose.—2 to 10 grains.

EXTRACTUM CANNABIS INDICÆ.

EXTRACT OF INDIAN HEMP.

Take of

Indian Hemp, in coarse powder	1 pound
Rectified Spirit	4 pints

Macerate the hemp in the spirit for seven days, and press out the tincture. Distil off the greater part of the spirit and evaporate what remains by a water-bath to the consistence of a soft extract.

Dose.—¼ to 1 grain.

Preparation.—Tinctura Cannabis Indicæ, 1 ounce to 1 pint.

EXTRACTUM CINCHONÆ FLAVÆ LIQUIDUM.

LIQUID EXTRACT OF YELLOW CINCHONA.

Take of

Yellow-Cinchona Bark, in coarse powder	1 pound
Distilled Water	a sufficiency
Rectified Spirit	1 fluid ounce

Macerate the cinchona bark, in two pints of the water, for twenty-four hours, stirring frequently; then pack in a percolator, and add more water, until twelve pints have been collected, or until the water ceases to dissolve anything more. Evaporate the liquor at a temperature not exceeding 160° to a pint; then filter through paper, and continue the evaporation to three fluid ounces, or until the specific gravity of the liquid is 1·200. When cold, add the spirit gradually, constantly stirring. The specific gravity should be about 1·100.

Dose.—10 to 30 minims.

EXTRACTUM COLCHICI.

EXTRACT OF COLCHICUM.

Take of

Fresh Colchicum Corms, deprived of their coats	7 pounds

Crush the corms; press out the juice; allow the feculence to subside, and heat the clear liquor to 212°; then strain through flannel and evaporate by a water-bath at a temperature not exceeding 160° until the extract is of a suitable consistence for forming pills.

Dose.—½ grain to 2 grains.

EXTRACTUM COLCHICI ACETICUM.

ACETIC EXTRACT OF COLCHICUM.

Take of

Fresh Colchicum Corms, deprived of their coats	7 pounds
Acetic Acid	6 fluid ounces

Crush the corms, add the acetic acid, and press out the juice; allow the feculence to subside, and heat the clear liquor to 212°; then strain through flannel, and evaporate by a water-bath at a temperature not exceeding 160° to the consistence of a soft extract.

Dose.—$\frac{1}{2}$ grain to 2 grains.

EXTRACTUM COLOCYNTHIDIS COMPOSITUM.

Compound Extract of Colocynth.

Take of

Colocynth Pulp	6 ounces
Extract of Socotrine Aloes	12 ounces
Resin of Scammony	4 ounces
Hard Soap, in powder	3 ounces
Cardamom Seeds, in fine powder	1 ounce
Proof Spirit	1 gallon

Macerate the colocynth in the spirit for four days; press out the tincture and distil off the spirit; then add the aloes, scammony, and soap, and evaporate by a water-bath until the extract is of a suitable consistence for forming pills, adding the cardamoms towards the end of the process.

Dose.—3 to 10 grains.

EXTRACTUM CONII.

Extract of Hemlock.

Take of

The fresh Leaves and young Branches of Hemlock	112 pounds

Bruise in a stone mortar, and press out the juice; heat it gradually to 130°, and separate the green colouring matter by a calico filter. Heat the strained liquor to 200° to coagulate the albumen, and again filter. Evaporate the filtrate by a water-bath to the consistence of a thin syrup; then add to it the green colouring matter previously separated, and stirring the whole together assiduously, continue the evaporation at a temperature not exceeding 140°, until the extract is of a suitable consistence for forming pills.

Dose.—2 to 6 grains.

Preparations.

Pilula Conii composita	2½ parts in 3
Vapor Coniæ	

EXTRACTUM ERGOTÆ LIQUIDUM.

LIQUID EXTRACT OF ERGOT.

Take of

Ergot, in coarse powder	1 pound
Ether	1 pint, or a sufficiency
Distilled Water	3½ pints
Rectified Spirit	8 fluid ounces

Shake the ether in a bottle with half a pint of the water, and after separation decant the ether. Place the ergot in a percolator, and free it from its oil by passing the washed ether slowly through it. Remove the marc, and digest it in three pints of the water at 160° for twelve hours. Press out, strain, and evaporate the liquor by the heat of a water-bath to nine fluid ounces; when cold, add the spirit. Allow it to stand for an hour to coagulate, then filter. The product should measure sixteen fluid ounces.

Dose.—10 to 30 minims.

EXTRACTUM FILICIS LIQUIDUM.

LIQUID EXTRACT OF MALE FERN.

Take of

Male Fern, in coarse powder	2 pounds
Ether	4 pints, or a sufficiency

Pack the male fern closely in a percolator, and pass the ether slowly through it until it passes colourless. Let the ether evaporate on a water-bath, or recover it by distillation, and preserve the oily extract.

Dose.—15 to 30 minims.

EXTRACTUM GENTIANÆ.

Extract of Gentian.

Take of

Gentian Root, sliced	1 pound
Boiling Distilled Water	1 gallon

Infuse the gentian in the water for two hours; boil for fifteen minutes; pour off, press, and strain. Then evaporate the liquor by a water-bath until the extract is of a suitable consistence for forming pills.

Dose.—2 to 10 grains.

EXTRACTUM GLYCYRRHIZÆ.

Extract of Liquorice.

Take of

Liquorice Root, in coarse powder .	1 pound
Distilled Water	4 pints

Macerate the liquorice root with two pints of the water for twelve hours, strain and press; again macerate the pressed marc with the remainder of the water for six hours, strain and press. Mix the strained liquors, heat them to 212°, and strain through flannel; then evaporate by a water-bath until the extract is of a suitable consistence for forming pills.

Preparations.

Confectio Sennæ . . .	1 part in 94, nearly
Decoctum Aloes compositum .	1 ounce in 30 fluid ounces
Mistura Sennæ composita . .	½ ounce in 1 pint
Tinctura Aloes	1½ ounce to 1 pint
Trochisci Opii	

EXTRACTUM HÆMATOXYLI.

Extract of Logwood.

Take of

Logwood, in fine chips	1 pound
Boiling Distilled Water	1 gallon

Infuse the logwood in the water for twenty-four hours, then boil down to one half, strain, and evaporate to dryness by a water-bath, stirring with a wooden spatula. Iron vessels should not be used.

Dose.—10 to 30 grains.

EXTRACTUM HYOSCYAMI.

Extract of Hyoscyamus.

Take of

The fresh Leaves and young Branches of Hyoscyamus	112 pounds

Bruise in a stone mortar and press out the juice; heat it gradually to 130°, and separate the green colouring matter by a calico filter. Heat the strained liquor to 200° to coagulate the albumen, and again filter. Evaporate the filtrate by a water-bath to the consistence of a thin syrup; then add to it the green colouring matter previously separated, and, stirring the whole assiduously, continue the evaporation at a temperature not exceeding 140°, until the extract is of a suitable consistence for forming pills.

Dose.—5 to 10 grains.

Preparation.—Pilula Colocynthidis et Hyoscyami, 1 part in 3.

EXTRACTUM JALAPÆ.

Extract of Jalap.

Take of

Jalap, in coarse powder	1 pound
Rectified Spirit	4 pints
Distilled Water	1 gallon

Macerate the jalap in the spirit for seven days; press out the tincture, then filter, and distil off the spirit, leaving a soft extract. Again macerate the residual jalap in the water for four hours, express, strain through flannel, and evaporate by a water-bath to a soft extract. Mix the two extracts, and evaporate at a temperature not exceeding 140° until it has acquired a suitable consistence for forming pills.

Dose.—5 to 15 grains.

EXTRACTUM KRAMERIÆ.

Extract of Rhatany.

Take of

Rhatany Root, in coarse powder .	1 pound
Distilled Water	a sufficiency

Macerate the rhatany in a pint and a half of the water for twenty-four hours; then pack in a percolator, and add more distilled water, until twelve pints have been collected, or the rhatany is exhausted. Evaporate the liquor by a water-bath to dryness.

Dose.—5 to 20 grains.

EXTRACTUM LACTUCÆ.

Extract of Lettuce.

Take of

The flowering Herb of Lettuce . .	112 pounds

Bruise in a stone mortar, and press out the juice; heat it gradually to 130°, and separate the green colouring matter by a calico filter. Heat the strained liquor to 200° to coagulate the albumen, and again filter. Evaporate the filtrate by a water-bath to the consistence of a thin syrup; then add to it the green colouring matter previously separated, and stirring the whole together assiduously, continue the evaporation at a temperature not exceeding 140°, until the extract is of a suitable consistence for forming pills.

Dose.—5 to 15 grains.

EXTRACTUM LUPULI.

Extract of Hop.

Take of

Hop	1 pound
Rectified Spirit	1½ pint
Distilled Water	1 gallon

Macerate the hop in the spirit for seven days, press out the tincture, filter, and distil off the spirit, leaving a soft extract. Boil the residual hop with the water for one hour, press out the liquor, strain, and evaporate by a water-bath to the consistence of a soft extract. Mix the two extracts, and evaporate at a temperature not exceeding 140° until it has acquired a suitable consistence for forming pills.

Dose.—5 to 15 grains.

EXTRACTUM MEZEREI ÆTHEREUM.

Ethereal Extract of Mezereon.

Take of

Mezereon Bark, cut small	1 pound
Rectified Spirit	8 pints
Ether	1 pint

Macerate the mezereon in six pints of the spirit for three days, with frequent agitation; strain and press. To the residue of the mezereon add the remainder of the spirit, and again macerate for three days, with frequent agitation; strain and press. Mix and filter the strained liquors; recover the greater part of the spirit by distillation, evaporate what remains to the consistence of a soft extract; put this into a stoppered bottle with the ether, and macerate for twenty-four hours, shaking them frequently. Decant the ethereal solution; recover part of the ether by distillation, and evaporate what remains to the consistence of a soft extract.

Preparation.

Linimentum Sinapis compositum	8 grains in 1 fluid ounce

EXTRACTUM NUCIS VOMICÆ.

Extract of Nux Vomica.

Take of

Nux Vomica	1 pound
Rectified Spirit	a sufficiency

Apply steam to the nux vomica until it is thoroughly softened, then dry rapidly, and reduce to fine powder. Exhaust the powder by boiling it with successive portions of the spirit until the latter comes off nearly free from bitterness. Strain, distil off the spirit, and evaporate by a water-bath to the consistence of a soft extract.

Dose.—$\frac{1}{2}$ grain to 2 grains.

EXTRACTUM OPII.

Extract of Opium.

Take of

Opium in thin slices	1 pound
Distilled Water	6 pints

Macerate the opium in two pints of the water for twenty-four hours, and express the liquor. Reduce the residue of the opium to a uniform pulp, macerate it again in two pints of the water for twenty-four hours, and express. Repeat the operation a third time. Mix the liquors, strain through flannel, and evaporate by a water-bath until the extract has acquired a suitable consistence for forming pills.

Dose.—$\frac{1}{2}$ grain to 2 grains.

Preparations.

Extractum Opii liquidum	1 ounce in 1 pint
Trochisci Opii	$\frac{1}{10}$ grain in each lozenge
Vinum Opii	1 ounce in 1 pint

EXTRACTUM OPII LIQUIDUM.

LIQUID EXTRACT OF OPIUM.

Take of

Extract of Opium	1 ounce
Distilled Water	16 fluid ounces
Rectified Spirit	4 fluid ounces

Macerate the extract of opium in the water for an hour, stirring frequently; then add the spirit, and filter. The product should measure one pint.

It contains 22 grains of extract of opium, nearly, in 1 fluid ounce.

Dose.—10 to 40 minims.

EXTRACTUM PAPAVERIS.

EXTRACT OF POPPIES.

Take of

Poppy Capsules, dried, freed from the seeds and coarsely powdered	1 pound
Rectified Spirit	2 ounces
Boiling Distilled Water	a sufficiency

Mix the poppy capsules with two pints of the water, and infuse for twenty-four hours, stirring them frequently; then pack them in a percolator, and adding more of the water allow the liquor slowly to pass until about a gallon has been collected, or the poppies are exhausted. Evaporate the liquor by a water-bath until it is reduced to a pint, and, when cold, add the spirit. Let the mixture stand for twenty-four hours, then separate the clear liquor by filtration, and evaporate this by a water-bath until the extract has acquired a suitable consistence for forming pills.

Dose.—2 to 5 grains.

EXTRACTUM PAREIRÆ.

EXTRACT OF PAREIRA.

Take of

Pareira Root, in coarse powder	1 pound
Boiling Distilled Water	1 gallon, or a sufficiency

Digest the pareira with a pint of the water for twenty-four hours, then pack in a percolator, and adding more of the water, allow the liquor slowly to pass until a gallon has been collected, or the pareira is exhausted. Evaporate the liquor by a water-bath until the extract has acquired a suitable consistence for forming pills.

Dose.—10 to 20 grains.

EXTRACTUM PAREIRÆ LIQUIDUM.

LIQUID EXTRACT OF PAREIRA.

Take of

Pareira Root, in coarse powder	1 pound
Boiling Distilled Water	1 gallon, or a sufficiency
Rectified Spirit	3 fluid ounces

Digest the pareira with a pint of the water for twenty-four hours, then pack in a percolator, and adding more of the water, allow the liquor slowly to pass until a gallon has been collected, or the pareira is exhausted. Evaporate the liquor by a water-bath to thirteen fluid ounces, and, when it is cold, add the spirit and filter through paper.

Dose.—$\frac{1}{2}$ fluid drachm to 2 fluid drachms.

EXTRACTUM PHYSOSTIGMATIS.

Extract of Calabar Bean.

Take of

Calabar Bean, in coarse powder . .	1 pound
Rectified Spirit	4 pints

Macerate the bean for forty-eight hours with one pint of the spirit in a close vessel, agitating occasionally, then transfer to a percolator, and when the fluid ceases to pass, add the remainder of the spirit so that it may slowly percolate through the powder. Subject the residue of the bean to pressure, adding the pressed liquid to the product of the percolation; filter, distil off most of the spirit, and evaporate what is left in the retort by a water-bath to the consistence of a soft extract.

Dose.—$\frac{1}{16}$ to $\frac{1}{4}$ grain.

EXTRACTUM QUASSIÆ.

Extract of Quassia.

Take of

Quassia Wood, rasped . . .	1 pound
Distilled Water	a sufficiency

Macerate the quassia with eight fluid ounces of the water for twelve hours; then pack in a percolator, and adding more of the water, allow the liquor slowly to pass until the quassia is exhausted. Evaporate the liquor; filter before it becomes too thick; and again evaporate by a water-bath until the extract is of a suitable consistence for forming pills.

Dose.—3 to 5 grains.

EXTRACTUM RHEI.

Extract of Rhubarb.

Take of

Rhubarb Root, sliced or bruised .	1 pound
Rectified Spirit	10 fluid ounces
Distilled Water	5 pints

Mix the spirit and the water, and macerate the rhubarb in the mixture for four days; then decant, press, and set by, that the undissolved matter may subside; pour off the clear liquor, ilter the remainder, mix the liquors, and evaporate by a water-bath at a temperature not exceeding 160° until the extract has acquired a suitable consistence for forming pills.

Dose.—5 to 15 grains.

EXTRACTUM SARSÆ LIQUIDUM.

LIQUID EXTRACT OF SARSAPARILLA.

Take of

Jamaica Sarsaparilla, cut transversely	1 pound
Distilled Water, at 160° . .	14 pints
Rectified Spirit	1 fluid ounce

Digest the sarsaparilla in one half of the water for six hours, and decant the liquor. Digest the residue in the remainder of the water for the same time, express and filter the mixed liquors, and evaporate them by a water-bath to seven fluid ounces, or until the specific gravity of the liquid is 1·13. When cold, add the spirit.

The specific gravity should be about 1·095.

Dose.—2 to 4 fluid drachms.

EXTRACTUM STRAMONII.

EXTRACT OF STRAMONIUM.

Take of

Stramonium Seeds, in coarse powder .	1 pound
Ether	1 pint, or a sufficiency
Distilled Water Proof Spirit } of each . . .	a sufficiency

Shake the ether in a bottle with half a pint of the water, and after separation decant the ether. Pack the stramonium in a percolator and free it from its oil by passing the washed ether slowly through it. Having removed and rejected the ethereal solution, pour the spirit over the residue of the stramonium in the percolator and allow it to pass through slowly until the powder is exhausted. Distil off most of the spirit from the tincture and evaporate the residue by a water-bath until the extract has acquired a suitable consistence for forming pills.

Dose.—$\frac{1}{4}$ grain to $\frac{1}{2}$ grain.

EXTRACTUM TARAXACI.

Extract of Dandelion.

Take of

Fresh Dandelion Root	4 pounds

Crush the root; press out the juice, and allow it to deposit; heat the clear liquor to 212°, and maintain the temperature for ten minutes; then strain, and evaporate by a water-bath at a temperature not exceeding 160° until the extract has acquired a suitable consistence for forming pills.

Dose.—5 to 30 grains.

FARINA TRITICI.

Wheaten Flour.

The grain of wheat, Triticum vulgare, *Villars*, ground and sifted.

Preparation.—Cataplasma Fermenti.

FEL BOVINUM PURIFICATUM.

Purified Ox Bile.

The purified gall of the Ox, Bos Taurus, *Linn.*

Take of

Fresh Ox Bile	1 pint
Rectified Spirit	2 pints

Mix the bile and the spirit by agitation in a bottle, and set aside for twelve hours until the sediment subsides. Decant the clear solution, and evaporate it in a porcelain dish by the heat of a water-bath, until it acquires a suitable consistence for forming pills.

Characters and Tests.—A yellowish-green substance, having a taste partly sweet, and partly bitter, soluble in water and in spirit. A solution of one or two grains of it, in about a fluid drachm of water, when treated, first with a drop of freshly made syrup consisting of one part of sugar and four of water, and then with sulphuric acid cautiously added until the precipitate at first formed is redissolved, gradually acquires a cherry-red colour, which changes in succession to carmine, purple, and violet. Its watery solution gives no precipitate on the addition of rectified spirit.

Dose.—5 to 10 grains.

FERRI ARSENIAS.

ARSENIATE OF IRON.

Arseniate of iron, $3FeO,AsO_5$ or $Fe_3As_2O_8$, partially oxidised.

Take of

Sulphate of Iron	9 ounces
Arseniate of Soda, dried at 300° . .	4 ounces
Acetate of Soda	3 ounces
Boiling Distilled Water . . .	a sufficiency

Dissolve the arseniate and acetate of soda in two pints, and the sulphate of iron in three pints of the water, mix the two solutions, collect the white precipitate which forms, on a calico filter, and wash until the washings cease to be affected by a dilute solution of chloride of barium. Squeeze the washed precipitate between folds of strong linen in a screw press, and dry it on porous bricks in a warm air-chamber whose temperature shall not exceed 100°.

Characters and Tests.—A tasteless amorphous powder of a green colour, insoluble in water, but readily dissolved by hydrochloric acid. This solution gives a copious light-blue precipitate with the yellow prussiate of potash, and a still more abundant one of a deeper colour with the red prussiate of potash. A small quantity boiled with an excess of caustic soda and filtered, gives, when exactly neutralised by nitric acid, a brick-red precipitate on the addition of solution of nitrate of silver. The solution in hydrochloric acid when diluted gives no precipitate with chloride of barium. Twenty grains dissolved in an excess of hydrochloric acid diluted with water continue to give a blue precipitate with the red prussiate of potash, until at least 170 grain-measures of the volumetric solution of bichromate of potash have been added.

Dose.—$\frac{1}{16}$ to $\frac{1}{2}$ grain.

FERRI CARBONAS SACCHARATA.

Saccharated Carbonate of Iron.

Carbonate of iron, FeO,CO_2 or **$FeCO_3$**, mixed with peroxide of iron and sugar, the carbonate forming at least 37 per cent. of the mixture.

Take of

Sulphate of Iron	2 ounces
Carbonate of Ammonia	$1\frac{1}{4}$ ounce
Boiling Distilled Water	2 gallons
Refined Sugar	1 ounce

Dissolve the sulphate of iron and the carbonate of ammonia each in half a gallon of the water, and mix the two solutions with brisk stirring in a deep cylindrical vessel, which is then to be covered as accurately as possible. Set the mixture by for twenty-four hours, and from the precipitate, which has subsided, separate the supernatant solution by a siphon. Pour on the remainder of the water, stir well, and, after subsidence, again remove the clear solution. Collect the resulting carbonate on a calico filter, and, having first subjected it to expression, rub it with the sugar in a porcelain mortar. Finally dry the mixture at a temperature not exceeding 212°.

Characters and Tests.—Small coherent lumps of a grey colour with a sweet very feeble chalybeate taste. It dissolves with effervescence in warm hydrochloric acid diluted with half its volume of water, and the solution gives but a very slight precipitate with chloride of barium. Twenty grains, dissolved in excess of hydrochloric acid and diluted with water, continue to give a blue precipitate with the red prussiate of potash, until at least 330 grain-measures of the volumetric solution of bichromate of potash have been added.

Dose.—5 to 20 grains.

Preparation.—Pilula Ferri Carbonatis, 1 part in 1¼.

FERRI ET AMMONIÆ CITRAS.

CITRATE OF IRON AND AMMONIA.

Synonym.—FERRI AMMONIO-CITRAS, *Lond.*, *Dubl.*

Take of

Solution of Persulphate of Iron .	8 fluid ounces
Solution of Ammonia . . .	19½ fluid ounces
Citric Acid	4 ounces
Distilled Water	a sufficiency

Mix fourteen fluid ounces of the solution of ammonia with two pints of distilled water, and to this add gradually the solution of persulphate of iron, previously diluted with two pints of distilled water, stirring them constantly and briskly. Let the mixture stand for two hours stirring it occasionally, then put it on a calico filter, and when the liquid has drained away, wash the precipitate with distilled water until that which passes through the filter ceases to give a precipitate with chloride of barium. Dissolve the citric acid in eight ounces of distilled water, and having applied the heat of a water-bath, add the oxide of iron, previously well drained, and stir them together until the whole or nearly the whole of the oxide has dissolved. Let the solution cool, then add five and a half fluid ounces of solution of ammonia. Filter through flannel; evaporate to the consistence of syrup and dry it in thin layers on flat porcelain or glass plates at a temperature not exceeding 100°. Remove the dry salt in flakes and keep it in a stoppered bottle.

Characters and Tests.—In thin transparent scales of a deep red colour, slightly sweetish and astringent in taste. It feebly reddens litmus paper, is soluble in water, but almost insoluble in rectified spirit. Heated with solution of potash it evolves ammonia and deposits peroxide of iron. The alkaline solution from which the iron has separated does not, when slightly supersaturated with acetic acid, give any crystalline deposit. When incinerated with exposure to air it leaves not less than twenty-seven per cent. of peroxide of iron which is not alkaline to litmus.

Dose.—5 to 10 grains.

Preparation.

Vinum Ferri Citratis .	8 grains in 1 fluid ounce

FERRI ET QUINIÆ CITRAS.

CITRATE OF IRON AND QUINIA.

Take of

Solution of Persulphate of Iron . .	$4\frac{1}{2}$ fluid ounces
Sulphate of Quinia	1 ounce
Diluted Sulphuric Acid . . .	12 fluid drachms
Citric Acid	3 ounces
Solution of Ammonia } of each . . Distilled Water }	a sufficiency

Mix eight fluid ounces of the solution of ammonia with two pints of distilled water, and to this add the solution of persulphate of iron previously diluted with two pints of distilled water, stirring them constantly and briskly. Let the mixture stand for two hours stirring it occasionally, then put it on a calico filter, and when the liquid has drained away, wash the precipitate with distilled water until that which passes through the filter ceases to give a precipitate with chloride of barium.

Mix the sulphate of quinia with eight ounces of distilled water, add the diluted sulphuric acid, and when the salt is dissolved precipitate the quinia with a slight excess of solution of ammonia. Collect the precipitate on a filter and wash it with a pint and a half of distilled water.

Dissolve the citric acid in five ounces of distilled water and, having applied the heat of a water-bath, add the oxide of iron previously well drained; stir them together, and when the oxide has dissolved, add the precipitated quinia continuing the agitation until this also has dissolved. Let the solution cool, then add in small quantities at a time twelve fluid drachms of solution of ammonia diluted with two fluid ounces of distilled water, stirring the solution briskly, and allowing the quinia which separates with each addition of ammonia to dissolve before the next addition is made. Filter the solution, evaporate it to the consistence of a thin syrup, then dry it in thin layers on flat porcelain or glass plates at a temperature of 100°. Remove the dry salt in flakes, and keep it in a stoppered bottle.

Characters and Tests.—Thin scales of a greenish golden-yellow colour, somewhat deliquescent, and entirely soluble in cold water. The solution is very slightly acid, and is precipitated reddish-brown by solution of soda, white by solution of ammonia, blue by the yellow and red prussiates of potash, and greyish-black by tannic acid. The taste is bitter as well as chalybeate. When burned with exposure to air, it leaves a residue which when moistened with water is not alkaline to test paper. Fifty grains dissolved in a fluid ounce of water and treated with a slight excess of ammonia give a white precipitate, which, when collected on a filter and dried, weighs eight grains. The precipitate is almost entirely soluble in pure ether, and when burned leaves but a minute residue.

Dose.—5 to 10 grains.

FERRI IODIDUM.

Iodide of Iron.

Iodide of iron, FeI or $\mathbf{FeI_2}$, with about 18 per cent. of water of crystallisation and a little oxide of iron.

Take of

Fine Iron Wire	1½ ounce
Iodine	3 ounces
Distilled Water	15 fluid ounces

Put the iodine, iron, and twelve ounces of the water into a flask, and having heated the mixture gently for about ten minutes, raise the heat and boil until the froth becomes white. Pass the solution as quickly as possible through a wetted calico filter into a dish of polished iron, washing the filter with the remainder of the water, and boil down until a drop of the solution taken out on the end of an iron wire solidifies on cooling. The liquid should now be poured out on a porcelain dish, and, as soon as it has solidified, should be broken into fragments, and enclosed in a well-stoppered bottle.

Characters and Tests.—Crystalline, green with a tinge of brown, inodorous, deliquescent, almost entirely soluble in water, forming a slightly green solution which gradually deposits a rust-coloured sediment, and acquires a red colour. Its solution gives a copious blue precipitate with the red prussiate of potash. Mixed with mucilage of starch, it acquires a blue colour on the addition of a minute quantity of solution of chlorine.

Dose.—1 to 5 grains.

Preparations containing Iodide of Iron.

Pilula Ferri Iodidi . .	1 part in 3
Syrupus Ferri Iodidi .	4·3 grains in 1 fluid drachm

FERRI OXIDUM MAGNETICUM.

Magnetic Oxide of Iron.

Synonym.—Ferri Oxidum Nigrum, *Edin.*

Magnetic oxide of iron, Fe_3O_4 or $\mathbf{Fe_3O_4}$, combined with about 20 per cent. of water of hydration, and containing some peroxide of iron.

Take of

Solution of Persulphate of Iron	$5\frac{1}{2}$ fluid ounces
Sulphate of Iron	2 ounces
Solution of Soda	4 pints
Distilled Water	a sufficiency

Dissolve the sulphate of iron in two pints of the water and add to it the solution of persulphate of iron, then mix this with the solution of soda, stirring them well together. Boil the mixture, let it stand for two hours, stirring it occasionally, then put it on a calico filter, and when the liquid has drained away, wash the precipitate with distilled water until what passes through the filter ceases to give a precipitate with chloride of barium. Lastly, dry the precipitate at a temperature not exceeding 120°.

Characters and Tests.—Brownish-black, destitute of taste, strongly attracted by the magnet. It dissolves without effervescence in hydrochloric acid diluted with half its volume of water, and the solution thus obtained gives blue precipitates with the red and yellow prussiates of potash. When a small quantity is heated in a dry test tube by the flame of a lamp, a deposit of moisture takes place in the cool part of the tube. Twenty grains dissolved in hydrochloric acid continue to give a blue precipitate with the red prussiate of potash until 83 grain-measures of the volumetric solution of bichromate of potash have been added.

Dose.—5 to 10 grains.

FERRI PEROXIDUM HUMIDUM.

Moist Peroxide of Iron.

Synonym.—Ferri Peroxidum Hydratum, 1864.

Hydrated peroxide of iron with about 86 per cent. of uncombined water.

Take of

Solution of Persulphate of Iron .	4 fluid ounces
Solution of Soda	33 fluid ounces
Distilled Water	a sufficiency

Mix the solution of persulphate of iron with a pint of the distilled water, and add this gradually to the solution of soda, stirring them constantly and briskly. Let the mixture stand for two hours, stirring it occasionally, then put it on a calico filter, and, when the liquid has drained away, wash the precipitate with distilled water, until what passes through the filter ceases to give a precipitate with chloride of barium. Lastly, enclose the precipitate, without drying it, in a stoppered bottle, or other suitable vessel, from which evaporation cannot take place. This preparation, when used, should be recently made.

Characters and Tests.—A soft moist pasty mass, of a reddish-brown colour. Dissolves readily in diluted hydrochloric acid without the aid of heat, and the solution gives a copious blue precipitate with the yellow but not with the red prussiate of potash. A little of it dried at 212°, until it ceases to lose weight, gives off moisture when heated to dull redness in a test tube.

Dose.—$\frac{1}{4}$ to $\frac{1}{2}$ ounce.

FERRI PEROXIDUM HYDRATUM.

HYDRATED PEROXIDE OF IRON.

Synonyms.—FERRI PEROXIDUM, 1864.
FERRI SESQUIOXIDUM, *Lond.*
FERRUGO } *Edin.*
FERRI OXIDUM RUBRUM } *Edin.*

Fe_2O_3,HO or $Fe_2O_3.H_2O$.

Take of

Moist Peroxide of Iron	1 pound

Dry it at a temperature not exceeding 212°, until it ceases to lose weight, then reduce it to fine powder.

Characters and Tests.—A reddish brown powder, destitute of taste and not magnetic. It dissolves completely, though slowly, with the aid of heat, in hydrochloric acid, diluted with half its volume of water, and the solution gives a copious precipitate with the yellow, but none with the red prussiate of potash. Heated to dull redness in a test tube it gives off moisture.

Dose.—5 to 30 grains.

FERRI PHOSPHAS.

PHOSPHATE OF IRON.

Phosphate of Iron, $3FeO,PO_5$ or $Fe_3P_2O_8$ partially oxidated.

Take of

Sulphate of Iron	3 ounces
Phosphate of Soda	$2\frac{1}{2}$ ounces
Acetate of Soda	1 ounce
Boiling Distilled Water . . .	4 pints

Dissolve the sulphate of iron in one half of the water, and the phosphate and acetate of soda in the remaining half. Mix the two solutions, and, after careful stirring, transfer the precipitate to a calico filter, and wash it with hot distilled water, till the filtrate ceases to give a precipitate with chloride of barium. Finally, dry the precipitate at a temperature not exceeding 120°.

Characters and Tests.—A slate-blue amorphous powder, insoluble in water, soluble in hydrochloric acid. The solution yields a precipitate with both the yellow and red prussiate of potash, that afforded by the latter being the more abundant; and when treated with tartaric acid and an excess of ammonia, and subsequently with the solution of ammonio-sulphate of magnesia, lets fall a crystalline precipitate. When the salt is digested in hydrochloric acid with a lamina of pure copper, a dark deposit does not form on the metal. 20 grains, dissolved in hydrochloric acid, continue to give a blue precipitate with red prussiate of potash until 250 grain-measures of the volumetric solution of bichromate of potash have been added.

Dose.—5 to 10 grains.

Preparation containing Phosphate of Iron.

Syrupus Ferri Phosphatis .	1 grain in 1 fluid drachm

FERRI SULPHAS.

SULPHATE OF IRON.

FeO,SO_3+7HO or $FeSO_4.7H_2O$.

Take of

Iron Wire	4 ounces
Sulphuric Acid	4 fluid ounces
Distilled Water	1½ pint

Pour the water on the iron placed in a porcelain dish, add the sulphuric acid, and when the disengagement of gas has nearly ceased, boil for ten minutes. Filter now through paper, and, after the lapse of twenty-four hours, separate the crystals which have been deposited from the solution. Let these be dried on filtering paper placed on porous bricks, and preserved in a stoppered bottle.

Characters and Tests.—In oblique rhombic prisms, of a pale greenish blue colour and styptic taste; insoluble in rectified spirit, soluble in water. The aqueous solution is clear, gives a white precipitate with chloride of barium, a blue one with the red, and a nearly white or light blue one with the yellow prussiate of potash. It gives no precipitate with sulphuretted hydrogen.

Dose.—1 to 5 grains.

Preparations.

Ferri Sulphas exsiccata	
Pilula Aloes et Ferri	1 part in 7

FERRI SULPHAS EXSICCATA.

Dried Sulphate of Iron.

FeO,SO_3,HO or $FeSO_4.H_2O$.

Take of

Sulphate of Iron	4 ounces

Expose it in a porcelain or iron dish to a heat commencing at 212°, but which may be finally raised to 400°, until aqueous vapour ceases to be given off. Reduce the residue to a fine powder, and preserve it in a stoppered bottle.

Dose.—$\frac{1}{2}$ grain to 3 grains.

FERRI SULPHAS GRANULATA.

Granulated Sulphate of Iron.

FeO,SO_3+7HO or $FeSO_4.7H_2O$.

Take of

Iron Wire	4 ounces
Sulphuric Acid	4 fluid ounces
Distilled Water	$1\frac{1}{2}$ pint
Rectified Spirit	8 fluid ounces

Pour the water on the iron placed in a porcelain capsule, add the sulphuric acid, and when the disengagement of gas has nearly ceased, boil for ten minutes, and then filter the solution into a jar containing the spirit, stirring the mixture so that the salt shall separate in minute granular crystals. Let these, deprived by decantation of adhering liquid, be transferred on filtering paper to porous tiles, and dried by exposure to the atmosphere. They should be preserved in a stoppered bottle.

Characters and Tests.—In small granular crystals of a pale greenish blue colour. In other respects corresponds to the characters and tests for sulphate of iron.

Dose.—1 to 5 grains.

FERRUM.

IRON.

Wrought iron in the form of wire or nails free from oxide.

Preparations of Iron.

Emplastrum Ferri
Ferri Arsenias
,, Carbonas Saccharata
,, et Ammoniæ Citras
,, et Quiniæ Citras
,, Iodidum
,, Oxidum Magneticum
,, Peroxidum humidum
,, Peroxidum hydratum
,, Phosphas
,, Sulphas
,, Sulphas exsiccata
,, Sulphas granulata
Ferrum Redactum
,, Tartaratum
Liquor Ferri Perchloridi
Liquor Ferri Perchloridi Fortior
,, ,, Pernitratis
,, ,, Persulphatis
Mistura Ferri aromatica
,, ,, composita
Pilula Ferri Carbonatis
,, Ferri Iodidi
Syrupus Ferri Iodidi
,, Ferri Phosphatis
Tinctura Ferri Acetatis
,, Ferri Perchloridi
Trochisci Ferri Redacti
Vinum Ferri
,, Ferri Citratis

FERRUM REDACTUM.

REDUCED IRON.

Synonym.—FERRI PULVIS, *Dubl.*

Metallic iron, with a variable amount of magnetic oxide of iron.

Take of

Hydrated Peroxide of Iron . .	1 ounce
Zinc, granulated	a sufficiency
Sulphuric Acid	a sufficiency
Chloride of Calcium	a sufficiency

Introduce the hydrated peroxide of iron into a gun-barrel, confining it to the middle part of the tube by plugs of asbestos.

Pass the gun-barrel through a furnace, and when it has been raised to a strong red heat, cause it to be traversed by a stream of hydrogen gas developed by the action on the zinc of some of the sulphuric acid diluted with eight times its volume of water. The gas before entering the gun-barrel must be rendered quite dry by being made to pass first through the remainder of the sulphuric acid, and then through a tube eighteen inches long, packed with small fragments of the chloride of calcium. The farther end of the gun-barrel is to be connected by a cork with a bent tube dipping under water; and when the hydrogen is observed to pass through the water at the same rate that it bubbles through the sulphuric acid, the furnace is to be allowed to cool down to the temperature of the atmosphere, the current of hydrogen being still continued. The reduced iron is then to be withdrawn, and enclosed in a dry stoppered bottle.

Characters and Tests.—A fine greyish-black powder, strongly attracted by the magnet, and exhibiting metallic streaks when rubbed with firm pressure in a mortar. It dissolves in hydrochloric acid with the evolution of hydrogen, and the solution gives a light-blue precipitate with the yellow prussiate of potash. Ten grains added to an aqueous solution of fifty grains of iodine and fifty grains of iodide of potassium, and digested in a small flask at a gentle heat, leave not more than five grains undissolved, which should be entirely soluble in hydrochloric acid.

Dose.—1 to 5 grains.

FERRUM TARTARATUM.

TARTARATED IRON.

Synonym.—FERRI POTASSIO-TARTRAS, *Lond.*
FERRUM TARTARIZATUM, *Edin. Dubl.*

Take of

Solution of Persulphate of Iron .	5½ fluid ounces
Solution of Ammonia . . .	10 fluid ounces
Acid Tartrate of Potash, in powder .	2 ounces
Distilled Water	a sufficiency

Mix the solution of ammonia with three pints of distilled water, and to this add gradually the solution of persulphate of iron previously diluted with two pints of distilled water, stirring constantly and briskly. Let the mixture stand for two hours, stirring it occasionally, then put it on a calico filter, and when the liquid has drained away wash the precipitate with distilled water until that which passes through the filter ceases to give a precipitate with chloride of barium. Mix the washed and drained precipitate intimately with the acid tartrate of potash in a porcelain dish and let the mixture stand for twenty-four hours; then, having applied a gentle heat, not exceeding 140°, add gradually a pint of distilled water, and stir constantly until nothing more will dissolve. Filter; evaporate at a temperature not exceeding 140° to the consistence of syrup, and dry it in thin layers on flat porcelain or glass plates in a drying closet at 120°. Remove the dry salt in flakes and keep it in stoppered bottles.

Characters and Tests.—Thin transparent scales of a deep garnet colour, slightly sweetish and astringent in taste, soluble in water and sparingly soluble in spirit. The aqueous solution, when acidulated with hydrochloric acid, gives a copious blue precipitate with the yellow, but none with the red, prussiate of potash. When the salt is boiled with solution of soda, peroxide of iron separates, but no ammonia is evolved, and the filtered solution when slightly acidulated by acetic acid gives, as it cools, a crystalline deposit. By incinerating fifty grains of it at a red heat, washing what is left with distilled water, and again incinerating, a residue of peroxide of iron is obtained, weighing 15 grains.

Dose.—5 to 10 grains.

FICUS.

Fig.

The dried fruit of Ficus Carica, *Linn.*; *Steph. and Church. Med. Bot.* plate 154. Imported from Smyrna.

Preparation.—Confectio Sennæ, 12 parts to 75.

FILIX MAS.

Male Fern.

The dried rhizome with the bases of the footstalks and portions of the root fibres of Aspidium Filix mas, *Swartz.*; *Woodv. Med. Bot.* plate 271. Collected in summer.

Characters.—Tufted, scaly, greenish-brown; powder greenish-yellow, with a disagreeable odour, and a nauseous, bitter somewhat astringent taste.

Preparation.—Extractum Filicis liquidum.

FŒNICULI FRUCTUS.

Fennel Fruit.

The fruit of Fœniculum dulce, *DC.* Imported from Malta.

Characters.—About three lines long and one line broad; elliptical, slightly curved, beaked, having eight pale-brown longitudinal ribs, the two lateral being double; taste and odour aromatic.

Preparation.—Aqua Fœniculi, 1 pound to 1 gallon.

GALBANUM.

Galbanum.

A gum-resin, derived from an unascertained umbelliferous plant. Imported from India and the Levant.

Characters.—In irregular tears about the size of a pea, usually agglutinated into masses; of a greenish-yellow colour, translucent, having a strong disagreeable odour, and an acrid bitter taste.

Preparations.

Emplastrum Galbani	1 part in 11
Pilula Assafœtidæ composita . .	1 part in $3\frac{1}{2}$

GALLA.

GALLS.

Excrescences on Quercus infectoria, *Olivier,* caused by the punctures and deposited ova of Diplolepis Gallæ tinctoriæ, *Latr.; Steph. and Church. Med. Bot.* plate 152.

Characters.—Hard heavy globular bodies, varying in size from half an inch to three-fourths of an inch in diameter, tuberculated on the surface, the tubercles and intervening spaces smooth; of a bluish-green colour on the surface, yellowish-white within, with a small central cavity; intensely astringent.

Preparations.

Acidum Gallicum	
,, Tannicum	
Tinctura Gallæ . . .	54½ grains to 1 fluid ounce
Unguentum Gallæ . .	80 grains to 1 ounce
,, ,, cum Opio	80 grains to 1 ounce, nearly

GENTIANÆ RADIX.

GENTIAN ROOT.

The dried root of Gentiana lutea, *Linn.; Steph. and Church. Med. Bot.* plate 132. Collected in the mountainous districts of Central and Southern Europe.

Characters.—From half an inch to one inch in thickness, several inches in length, often twisted, much wrinkled, or marked with close transverse rings; brown externally, yellow within, tough and spongy; taste at first sweetish, afterwards very bitter.

Preparations.

Extractum Gentianæ	
Infusum Gentianæ compositum .	120 grains to 1 pint
Mistura Gentianæ . . .	½ ounce to 1 pint
Tinctura Gentianæ composita .	1½ ounce to 1 pint

GLYCERINUM.

Glycerine.

A sweet principle, $C_6H_8O_6$ or $\mathbf{C_3H_8O_3}$, obtained from fats and fixed oils, and containing a small percentage of water.

Characters.—A clear colourless fluid, oily to the touch, without odour, of a sweet taste; freely soluble in water and in alcohol. When decomposed by heat it evolves intensely irritating vapours. Specific gravity 1·25.

Dose.—1 to 2 drachms.

Preparations.

Glycerinum Acidi Carbolici
,, ,, Gallici
,, ,, Tannici
,, Amyli
Glycerinum Boracis
Linimentum Potassii Iodidi cum Sapone

GLYCERINUM ACIDI CARBOLICI.

Glycerine of Carbolic Acid.

Take of

Carbolic Acid	1 ounce
Glycerine	4 fluid ounces

Rub them together in a mortar until the acid is dissolved.

GLYCERINUM ACIDI GALLICI.

Glycerine of Gallic Acid.

Take of

Gallic Acid	1 ounce
Glycerine	4 fluid ounces

Rub them together in a mortar, then transfer the mixture to a porcelain dish and apply a gentle heat until complete solution is effected.

GLYCERINUM ACIDI TANNICI.

Glycerine of Tannic Acid.

Take of

Tannic Acid	1 ounce
Glycerine	4 fluid ounces

Rub them together in a mortar, then transfer the mixture to a porcelain dish and apply a gentle heat until complete solution is effected.

GLYCERINUM AMYLI.

Glycerine of Starch.

Take of

Starch	1 ounce
Glycerine	8 fluid ounces

Rub them together until they are intimately mixed, then transfer the mixture to a porcelain dish, and apply a heat gradually raised to 240°, stirring it constantly until the starch particles are completely broken and a translucent jelly is formed.

GLYCERINUM BORACIS.

Glycerine of Borax.

Take of

Borax in powder	1 ounce
Glycerine	4 fluid ounces

Rub them together in a mortar until the borax is dissolved.

GLYCYRRHIZÆ RADIX.

Liquorice Root.

The root or underground stem, fresh and dried, of Glycyrrhiza glabra, *Linn.; Steph. and Church. Med. Bot.* plate 134. Cultivated in England.

Characters.—In long cylindrical branched pieces, an inch or less in diameter, tough and pliable; of a greyish-brown colour externally, yellow internally, without odour, of a sweet mucilaginous and slightly acrid taste. Digested with water it yields a solution which gives a precipitate with diluted sulphuric acid.

Preparations.

Confectio Terebinthinæ	1 part in 4, nearly
Decoctum Sarsæ compositum	¼ ounce to 1 pint
Extractum Glycyrrhizæ	
Infusum Lini	120 grains to 1 pint
Pilula Hydrargyri	1 part in 6
„ Ferri Iodidi	1 part in 2¾, nearly

GOSSYPIUM.

Cotton Wool.

The hairs of the seed of various species of Gossypium, *Linn.*, carded.

Preparation.—Pyroxylin.

GRANATI RADICIS CORTEX.

Pomegranate Root Bark.

The dried bark of the root of Punica Granatum, *Linn. Steph. and Church. Med. Bot.* plate 57. Obtained from the South of Europe.

Characters.—In quills or fragments of a greyish-yellow colour externally, yellow internally, having a short fracture, little odour, and an astringent slightly bitter taste.

Preparation.—Decoctum Granati Radicis, 2 ounces to 1 pint.

GUAIACI LIGNUM.

Guaiacum Wood.

The wood of Guaiacum officinale, *Linn.; Steph. and*

Church. Med. Bot. plate 90. Imported from St. Domingo and Jamaica, and reduced by the turning lathe to the form of a coarse powder or small chips.

Preparation.

Decoctum Sarsæ compositum .	¼ ounce to 1 pint

GUAIACI RESINA.

Guaiacum Resin.

The resin of Guaiacum officinale, *Linn.* Obtained from the stem by natural exudation, by incisions, or by heat.

Characters.—In large masses of a brownish or greenish-brown colour; fractured surface resinous, translucent at the edges. A solution in rectified spirit strikes a clear blue colour when applied to the inner surface of a paring of raw potato.

Dose.—10 to 30 grains.

Preparations.

Mistura Guaiaci . . .	11 grains in 1 fluid ounce
Pilula Hydrargyri Subchloridi composita	1 part in 2½
Tinctura Guaiaci ammoniata .	88 grains in 1 fluid ounce

HÆMATOXYLI LIGNUM.

Logwood.

The sliced heart-wood of Hæmatoxylum campechianum, *Linn.*; *Woodv. Med. Bot.* plate 17. Imported from Campeachy, Honduras, and Jamaica.

Characters.—The logs are externally of a dark colour, internally they are reddish-brown; the chips have a feeble agreeable odour, and a sweetish taste; a small portion chewed imparts to the saliva a dark pink colour.

Preparations.

Decoctum Hæmatoxyli . .	1 ounce to 1 pint
Extractum Hæmatoxyli	

HEMIDESMI RADIX.

HEMIDESMUS ROOT.

The dried root of Hemidesmus indicus, *DC.*; *Wight, Icon. Plant. Ind. Orient.* vol. ii. plate 594. Imported from India.

Characters.—Yellowish-brown, cylindrical, tortuous, furrowed and with annular cracks, having a fragrant odour, and a very agreeable flavour.

Preparation.

Syrupus Hemidesmi . .	1 ounce to $10\frac{1}{2}$ ounces

HIRUDO.

THE LEECH.

1. Sanguisuga medicinalis, *Savigny*, the Speckled Leech; and 2. S. officinalis, *Sav.*, the Green Leech. Collected in Spain, France, Italy, and Hungary.

Characters.—Body elongated, two or three inches long, tapering to each end, plano-convex, wrinkled transversely; back olive-green with six rusty-red longitudinal stripes. 1. Belly greenish-yellow, spotted with black; 2. Belly olive-green, not spotted.

HORDEUM DECORTICATUM.

PEARL BARLEY.

The husked seeds of Hordeum distichon, *Linn.* Cultivated in Britain.

Characters.—White, rounded, retaining a trace of the longitudinal furrow.

Preparation.—Decoctum Hordei.

HYDRARGYRI IODIDUM RUBRUM.

Red Iodide of Mercury.

Synonym.—Hydrargyri Biniodidum, *Lond.* and *Edinb.*

HgI or HgI_2.

Take of

Perchloride of Mercury	4 ounces
Iodide of Potassium	5 ounces
Boiling Distilled Water	4 pints

Dissolve the perchloride of mercury in three pints, and the iodide of potassium in the remainder of the water, and mix the two solutions. When the temperature of the mixture has fallen to that of the atmosphere, decant the supernatant liquor from the precipitate, and, having collected the latter on a filter, wash it twice with cold distilled water, and dry it at a temperature not exceeding 212°.

Characters and Tests.—A crystalline powder of a vermilion colour, becoming yellow when gently heated over a lamp on a sheet of paper; almost insoluble in water, dissolves sparingly in alcohol, but freely in ether, or in an aqueous solution of iodide of potassium. When digested with solution of soda it assumes a reddish-brown colour, and the fluid cleared by filtration and mixed with solution of starch gives a blue precipitate on being acidulated with nitric acid. Entirely volatilised by a heat under redness.

Dose.—$\frac{1}{16}$ to $\frac{1}{4}$ grain.

Preparation.

Unguentum Hydrargyri Iodidi rubri .	1 part in 28

HYDRARGYRI IODIDUM VIRIDE.

Green Iodide of Mercury.

Synonym.—Hydrargyri Iodidum, *Lond.*

Hg_2I or HgI.

Take of

Mercury, by weight	1 ounce
Iodine	278 grains
Rectified Spirit	a sufficiency

Rub the iodine and mercury in a porcelain mortar, occasionally moistening the mixture with a few drops of the spirit, and continue the trituration until metallic globules are no longer visible, and the whole assumes a green colour. The product thus obtained should be dried in a dark room, on filtering paper, by simple exposure to the air, and preserved in an opaque bottle.

Characters and Tests.—A dull green powder insoluble in water, which darkens in colour upon exposure to light. When it is shaken in a tube with ether nothing is dissolved. Gradually heated in a test tube, it yields a yellow sublimate, which upon friction, or after cooling, becomes red, while globules of metallic mercury are left in the bottom of the tube.

Dose.—1 to 3 grains.

HYDRARGYRI OXIDUM RUBRUM.

RED OXIDE OF MERCURY.

Synonym.—HYDRARGYRI NITRICO-OXIDUM, *Lond.*

HgO or $\mathbf{HgO}$.

Take of

Mercury, by weight . . .	8 ounces
Nitric Acid	$4\frac{1}{2}$ fluid ounces
Water	2 fluid ounces

Dissolve half the mercury in the nitric acid diluted with the water, evaporate the solution to dryness, and with the dry salt thus obtained, triturate the remainder of the mercury until the two are uniformly blended together. Heat the mixture in a porcelain dish, with repeated stirring, until acid vapours cease to be evolved, and, when cold, enclose the product in a bottle.

Characters and Tests.—An orange-red powder readily dissolved by hydrochloric acid, yielding a solution which, with caustic potash added in excess, gives a yellow precipitate, and with solution of ammonia a white precipitate. Entirely volatilised by a heat under redness, being at the same time decomposed into mercury and oxygen. If this be done in a test tube no orange vapours are perceived.

Preparation.

Unguentum Hydrargyri Oxidi rubri .	1 part in 8

HYDRARGYRI PERCHLORIDUM.

PERCHLORIDE OF MERCURY.

Synonyms.—HYDRARGYRUM CORROSIVUM SUBLIMATUM, 1864.
HYDRARGYRI BICHLORIDUM, *Lond.*
SUBLIMATUS CORROSIVUS, *Edin.*
SUBLIMATUM CORROSIVUM, *Dubl.*
CORROSIVE SUBLIMATE.

$HgCl$ or $HgCl_2$.

Take of

Sulphate of Mercury	20 ounces
Chloride of Sodium, dried . . .	16 ounces
Black Oxide of Manganese, in fine powder	1 ounce

Reduce the sulphate of mercury and the chloride of sodium each to fine powder, and having mixed them and the oxide of manganese thoroughly by trituration in a mortar, put the mixture into an apparatus adapted for sublimation, and apply sufficient heat to cause vapours of perchloride of mercury to rise into the less heated part of the apparatus which has been arranged for their condensation.

Characters and Tests.—In heavy colourless masses of prismatic crystals, possessing a highly acrid metallic taste; more soluble in alcohol, and still more so in ether, than in water. Its aqueous solution gives a yellow precipitate with caustic potash, a white precipitate with ammonia, and a curdy white precipitate with nitrate of silver. When heated it sublimes without decomposing, or leaving any residue.

Dose.—$\frac{1}{16}$ to $\frac{1}{8}$ grain.

Preparations in which Perchloride of Mercury is used.

Liquor Hydrargyri Perchloridi .	$\frac{1}{2}$ grain in 1 fluid ounce
Lotio Hydrargyri Flava . .	18 grains to 10 fluid ounces

HYDRARGYRI SUBCHLORIDUM.

SUBCHLORIDE OF MERCURY.

Synonyms.—CALOMELAS, 1864, *Edin.*, *Dubl.*
HYDRARGYRI CHLORIDUM, *Lond.*
CALOMEL.

Hg_2Cl or **HgCl.**

Take of

Sulphate of Mercury . . .	10 ounces
Mercury	7 ounces
Chloride of Sodium, dried . . .	5 ounces
Boiling Distilled Water . . .	a sufficiency

Moisten the sulphate of mercury with some of the water, and rub it and the mercury together until globules are no longer visible; add the chloride of sodium, and thoroughly mix the whole by continued trituration. Sublime by a suitable apparatus into a chamber of such size that the calomel, instead of adhering to its sides as a crystalline crust, shall fall as a fine powder on its floor. Wash this powder with boiling distilled water until the washings cease to be darkened by a drop of sulphide of ammonium. Finally, dry at a heat not exceeding 212°, and preserve in a jar or bottle impervious to light.

Characters and Tests.—A dull-white heavy and nearly tasteless powder, rendered yellowish by trituration in a mortar; insoluble in water, spirit, or ether. Digested with solution of potash it becomes black; and the clear solution, acidulated with nitric acid, gives a copious white precipitate with nitrate of silver. Contact with hydrocyanic acid also darkens its colour. It is entirely volatilised by a sufficient heat. Warm ether which has been shaken with it in a bottle leaves, on evaporation, no residue.

Dose.—½ grain to 5 grains.

Preparations in which Subchloride of Mercury is used.

Lotio Hydrargyri Nigra . . .	3 grains to 1 fluid ounce
Pilula Hydrargyri Subchloridi composita	1 part in 5
Unguentum Hydrargyri Subchloridi .	1 part in 6½, nearly

HYDRARGYRI SULPHAS.

SULPHATE OF MERCURY.

HgO,SO_3 or $\mathbf{HgSO_4}$.

Take of

Mercury, by weight	20 ounces
Sulphuric Acid	12 fluid ounces

Heat the mercury with the sulphuric acid in a porcelain vessel, stirring constantly until the metal disappears, then continue the heat until a dry white salt remains.

Characters.—A white crystalline heavy powder, rendered yellow by affusion of water. Entirely volatilised by heat.

Preparations in which Sulphate of Mercury is used.

Hydrargyri Perchloridum | Hydrargyri Subchloridum

HYDRARGYRUM.

MERCURY.

Characters and Tests.—A metal, fluid at common temperatures, brilliantly lustrous, and easily divisible into spherical globules. Volatilises at a heat below that of visible redness, leaving no residue.

Preparations containing Mercury chiefly uncombined.

Hydrargyrum cum Creta	1	part	in 3
Emplastrum Ammoniaci cum Hydrargyro .	1	„	in 5
„ Hydrargyri	1	„	in 3
Linimentum Hydrargyri	1	„	in 3
Pilula Hydrargyri	1	„	in 3
Suppositoria Hydrargyri			
Unguentum Hydrargyri	1	„	in 2
„ „ composita . .	1	„	in 4½

Preparations containing combined Mercury.

Hydrargyri Iodidum rubrum
,, ,, viride
,, Oxidum rubrum
,, Perchloridum
,, Subchloridum
,, Sulphas
Hydrargyrum Ammoniatum
Liquor Hydrargyri Nitratis acidus
,, ,, Perchloridi
Lotio Hydrargyri Flava
,, ,, Nigra
Pilula Hydrargyri Subchloridi composita
Unguentum Hydrargyri Ammoniati
,, ,, Iodidi rubri
,, ,, Nitratis
,, ,, Oxidi rubri

HYDRARGYRUM AMMONIATUM.

AMMONIATED MERCURY.

Synonyms.—HYDRARGYRI AMMONIO-CHLORIDUM, *Lond.*, *Dubl.*
HYDRARGYRI PRÆCIPITATUM ALBUM, *Edin.*

NH_2Hg_2Cl or $\mathbf{NH_2HgCl}$.

Take of

Perchloride of Mercury . . .	3 ounces
Solution of Ammonia . . .	4 fluid ounces
Distilled Water	3 pints

Dissolve the perchloride of mercury in the water with the aid of a moderate heat; mix the solution with the ammonia, constantly stirring: collect the precipitate on a filter, and wash it well with cold distilled water until the liquid which passes through ceases to give a precipitate when dropped into a solution of nitrate of silver acidulated by nitric acid. Lastly, dry the product at a temperature not exceeding 212°.

Characters and Tests.—An opaque white powder on which cold water, alcohol, and ether have no action. Digested with caustic potash, it evolves ammonia, acquiring a pale yellow colour, and the fluid, filtered and acidulated with nitric acid, gives a white precipitate with nitrate of silver. Boiled with a solution of chloride of tin it becomes grey, and affords globules of metallic mercury. Entirely volatilised at a heat under redness.

Preparation.

Unguentum Hydrargyri Ammoniati .	1 part in 8

HYDRARGYRUM CUM CRETA.

Mercury with Chalk.

Take of

Mercury, by weight	1 ounce
Prepared Chalk	2 ounces

Rub the mercury and chalk in a porcelain mortar until metallic globules cease to be visible to the naked eye, and the mixture acquires a uniform grey colour.

Characters and Tests.—A powder of a light-grey colour; free from grittiness; insoluble in water; partly dissolved by diluted hydrochloric acid, leaving the mercury in a finely divided state. The solution formed with hydrochloric acid is not precipitated by the addition of chloride of tin.

Dose.—3 to 8 grains.

HYOSCYAMI FOLIA.

Hyoscyamus Leaves.

The fresh leaves, with the branches to which they are attached, of Hyoscyamus niger, *Linn.*; also the leaves separated from the branches and carefully dried; gathered from wild, or cultivated British, biennial plants when about two-thirds of the flowers are expanded. *Steph. and Church. Med. Bot.* plate 9.

Characters.—Leaves sinuated, clammy, and hairy. The fresh herb has a strong unpleasant odour, and a slightly acrid taste, which nearly disappear on drying. The fresh juice, dropped into the eye, dilates the pupil.

Preparations.

Extractum Hyoscyami	
Tinctura Hyoscyami	$2\frac{1}{2}$ ounces to 1 pint

INFUSUM ANTHEMIDIS.

Infusion of Chamomile.

Take of

Chamomile Flowers	$\frac{1}{2}$ ounce
Boiling Distilled Water	10 fluid ounces

Infuse in a covered vessel, for fifteen minutes, and strain.

Dose.—1 to 4 fluid ounces.

INFUSUM AURANTII.

Infusion of Orange Peel.

Take of

Bitter Orange Peel, cut small	$\frac{1}{2}$ ounce
Boiling Distilled Water	10 fluid ounces

Infuse in a covered vessel, for fifteen minutes, and strain.

Dose.—1 to 2 fluid ounces.

INFUSUM AURANTII COMPOSITUM.

Compound Infusion of Orange Peel.

Take of

Bitter Orange Peel, cut small	$\frac{1}{4}$ ounce
Fresh Lemon Peel, cut small	60 grains
Cloves, bruised	30 grains
Boiling Distilled Water	10 fluid ounces

Infuse in a covered vessel, for a quarter of an hour, and strain.

Dose.—1 to 2 fluid ounces.

INFUSUM BUCHU.

Infusion of Buchu.

Take of

Buchu Leaves, bruised	$\frac{1}{2}$ ounce
Boiling Distilled Water	10 fluid ounces

Infuse in a covered vessel, for one hour, and strain.

Dose.—1 to 4 fluid ounces.

INFUSUM CALUMBÆ.

Infusion of Calumba.

Take of

Calumba Root, cut small	$\frac{1}{2}$ ounce
Cold Distilled Water	10 fluid ounces

Macerate in a covered vessel, for one hour, and strain.

Dose.—1 to 2 fluid ounces.

INFUSUM CARYOPHYLLI.

Infusion of Cloves.

Take of

Cloves, bruised	$\frac{1}{4}$ ounce
Boiling Distilled Water	10 fluid ounces

Infuse in a covered vessel, for half an hour, and strain.

Dose.—1 to 4 fluid ounces.

INFUSUM CASCARILLÆ.

Infusion of Cascarilla.

Take of

Cascarilla Bark, in coarse powder	1 ounce
Boiling Distilled Water	10 fluid ounces

Infuse in a covered vessel, for one hour, and strain.

Dose.—1 to 2 fluid ounces.

INFUSUM CATECHU.

Infusion of Catechu.

Take of

Pale Catechu, in coarse powder	160 grains
Cinnamon Bark, bruised	30 grains
Boiling Distilled Water	10 fluid ounces

Infuse in a covered vessel, for half an hour, and strain.

Dose.—1 to 2 fluid ounces.

INFUSUM CHIRATÆ.

Infusion of Chiretta.

Take of

Chiretta, cut small	¼ ounce
Distilled Water, at 120°	10 ounces

Infuse in a covered vessel, for half an hour, and strain.

Dose.—1 to 2 fluid ounces.

INFUSUM CINCHONÆ FLAVÆ.

Infusion of Yellow Cinchona.

Take of

Yellow Cinchona Bark, in coarse powder	½ ounce
Boiling Distilled Water	10 fluid ounces

Infuse in a covered vessel, for two hours, and strain.

Dose.—1 to 2 fluid ounces.

INFUSUM CUSPARIÆ.

Infusion of Cusparia.

Take of

Cusparia Bark, in coarse powder	½ ounce
Distilled Water, at 120°	10 fluid ounces

Infuse in a covered vessel, for two hours, and strain.

Dose.—1 to 2 fluid ounces.

INFUSUM CUSSO.

Infusion of Kousso.

Take of

Kousso, in coarse powder	½ ounce
Boiling Distilled Water	8 fluid ounces

Infuse in a covered vessel, for fifteen minutes, without straining.

Dose.—4 to 8 fluid ounces.

INFUSUM DIGITALIS.

Infusion of Digitalis.*

Take of

Digitalis Leaves, dried	30 grains
Boiling Distilled Water	10 fluid ounces

Infuse in a covered vessel, for one hour, and strain.

Dose.—2 to 4 fluid drachms.

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* This infusion has half the strength of Infusum Digitalis, *Edin.*, *Dubl.*

INFUSUM DULCAMARÆ.

Infusion of Dulcamara.

Take of

Dulcamara, bruised	1 ounce
Boiling Distilled Water	10 fluid ounces

Infuse in a covered vessel, for one hour, and strain.

Dose.—1 to 2 fluid ounces.

INFUSUM ERGOTÆ.

Infusion of Ergot.

Take of

Ergot, in coarse powder	¼ ounce
Boiling Distilled Water	10 fluid ounces

Infuse in a covered vessel, for half an hour, and strain.

Dose.—1 to 2 fluid ounces.

INFUSUM GENTIANÆ COMPOSITUM.

Compound Infusion of Gentian.*

Take of

Gentian Root, sliced Bitter Orange Peel, cut small	of each 60 grains
Fresh Lemon Peel, cut small	¼ ounce
Boiling Distilled Water	10 fluid ounces

Infuse in a covered vessel, for one hour, and strain.

Dose.—1 to 2 fluid ounces.

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* This is the Infusum Gentianæ compositum, *Lond.* The preparation under this name in the *Brit. Pharm.*, 1864, is now named Mistura Gentianæ. See p. 211.

INFUSUM KRAMERIÆ.

Infusion of Rhatany.

Take of

Rhatany Root, bruised	½ ounce
Boiling Distilled Water	10 fluid ounces

Infuse in a covered vessel, for one hour, and strain.

Dose.—1 to 2 fluid ounces.

INFUSUM LINI.

Infusion of Linseed.

Take of

Linseed	160 grains
Fresh Liquorice Root, sliced	60 grains
Boiling Distilled Water	10 fluid ounces

Infuse in a covered vessel, for four hours, and strain.

INFUSUM LUPULI.

Infusion of Hop.

Take of

Hop	½ ounce
Boiling Distilled Water	10 fluid ounces

Infuse in a covered vessel, for two hours, and strain.

Dose.—1 to 2 fluid ounces.

INFUSUM MATICÆ.

Infusion of Matico.

Take of

Matico Leaves, cut small	½ ounce
Boiling Distilled Water	10 fluid ounces

Infuse in a covered vessel, for half an hour, and strain.

Dose.—1 to 4 fluid ounces.

INFUSUM QUASSIÆ.

INFUSION OF QUASSIA.

Take of

Quassia Wood, in chips . . .	60 grains
Cold Distilled Water . . .	10 fluid ounces

Macerate in a covered vessel, for half an hour, and strain.

Dose.—1 to 2 fluid ounces.

INFUSUM RHEI.

INFUSION OF RHUBARB.

Take of

Rhubarb Root, in thin slices . .	$\frac{1}{4}$ ounce
Boiling Distilled Water . . .	10 fluid ounces

Infuse in a covered vessel, for one hour, and strain.

Dose.—1 to 2 fluid ounces.

INFUSUM ROSÆ ACIDUM.

ACID INFUSION OF ROSES.

Take of

Dried Red-Rose Petals, broken up .	$\frac{1}{4}$ ounce
Diluted Sulphuric Acid . . .	1 fluid drachm
Boiling Distilled Water . . .	10 fluid ounces

Add the acid to the water, infuse the petals in the mixture n a covered vessel, for half an hour, and strain.

Dose.—1 to 2 fluid ounces.

INFUSUM SENEGÆ.

INFUSION OF SENEGA.

Take of

Senega Root, bruised . . .	$\frac{1}{2}$ ounce
Boiling Distilled Water . . .	10 fluid ounces

Infuse in a covered vessel, for one hour, and strain.

Dose.—1 to 2 fluid ounces.

INFUSUM SENNÆ.

Infusion of Senna.*

Take of

Senna	1 ounce
Ginger, sliced	30 grains
Boiling Distilled Water . . .	10 fluid ounces

Infuse in a covered vessel, for one hour, and strain.

Dose.—1 to 2 fluid ounces.

Preparation.—Mistura Sennæ composita.

INFUSUM SERPENTARIÆ.

Infusion of Serpentary.

Take of

Serpentary Root, bruised . .	¼ ounce
Boiling Distilled Water . .	10 fluid ounces

Infuse in a covered vessel, for two hours, and strain.

Dose.—1 to 2 fluid ounces.

INFUSUM UVÆ URSI.

Infusion of Bearberry.

Take of

Bearberry Leaves, bruised . .	½ ounce
Boiling Distilled Water . .	10 fluid ounces

Infuse in a covered vessel, for two hours, and strain.

Dose.—1 to 2 fluid ounces.

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* This corresponds in strength with *Infusum Sennæ Compositum Lond.* It is double the strength of *Infusum Sennæ, Brit. Pharm* 1864, and *Dubl.*

INFUSUM VALERIANÆ.

Infusion of Valerian.

Take of

Valerian Root, bruised . . .	120 grains
Boiling Distilled Water . . .	10 fluid ounces

Infuse in a covered vessel, for one hour, and strain.

Dose.—1 to 2 fluid ounces.

IODUM.

Iodine.

A non-metallic element obtained principally from the ashes of sea-weeds.

Characters and Tests.—In laminar crystals, of a peculiar odour, dark colour, and metallic lustre, which, when heated, yield a beautiful violet-coloured vapour; very sparingly soluble in water, but freely dissolved by alcohol, by ether, and by a solution of iodide of potassium. The aqueous solution strikes a deep blue colour with starch. It sublimes without leaving any residue, and the portion that first comes over does not include any slender colourless prisms emitting a pungent odour. 12·7 grains dissolved in an ounce of water containing fifteen grains of iodide of potassium, require for complete discoloration 1000 grain-measures of the volumetric solution of hyposulphite of soda.

Preparations of Iodine.

Cadmii Iodidum
Ferri Iodidum
Hydrargyri Iodidum rubrum
,, ,, viride
Linimentum Iodi
,, Potassii Iodidi cum Sapone
Liquor Iodi
Pilula Ferri Iodidi
Potassii Iodidum
Sulphuris Iodidum
Syrupus Ferri Iodidi
Tinctura Iodi
Unguentum Cadmii Iodidi
,, Iodi
,, Plumbi Iodidi
,, Sulphuris Iodidi
Vapor Iod

IPECACUANHA.

Ipecacuanha.

The dried root of Cephaëlis Ipecacuanha, *DC.; Steph. and Church. Med. Bot.* plate 62. Imported from Brazil.

Characters.—In pieces three or four inches long, about the size of a small quill, contorted and irregularly annulated. Colour brown of various shades. It consists of two parts, the cortical or active portion which is brittle, and a slender tough white woody centre. Powder, pale brown, with a faint nauseous odour, and a somewhat acrid and bitter taste.

Dose.—As an expectorant, $\frac{1}{2}$ grain to 2 grains; as an emetic, 15 to 30 grains.

Preparations.

Pilula Conii composita	1 part in 6
,, Ipecacuanhæ cum Scilla	1 part in $16\frac{1}{2}$, nearly
Pulvis Ipecacuanhæ compositus	1 part in 10
Trochisci Ipecacuanhæ	$\frac{1}{4}$ grain in each lozenge
,, Morphiæ et Ipecacuanhæ	$\frac{1}{12}$ grain in each lozenge
Vinum Ipecacuanhæ	22 grains to 1 fluid ounce

JALAPA.

Jalap.

The dried tubercules of Exogonium Purga, *Bentham. Bot. Mag.* vol. lxxiii. plate 4280. Imported from Mexico.

Characters.—Varying from the size of a nut to that of an orange, ovoid, the larger tubercules frequently incised, covered with a thin brown wrinkled cuticle; presenting, when cut, a yellowish-grey colour, with dark brown concentric circles.

Dose.—10 to 30 grains.

Preparations.

Extractum Jalapæ	
Pulvis Jalapæ compositus	1 part in 3
,, Scammonii compositus	3 parts in 8
Resina Jalapæ	
Tinctura Jalapæ	54½ grains to 1 fluid ounce

JALAPÆ RESINA.

RESIN OF JALAP.

Take of

Jalap, in coarse powder	8 ounces
Rectified Spirit	a sufficiency
Distilled Water	a sufficiency

Digest the jalap with sixteen fluid ounces of the spirit in a covered vessel, at a gentle heat, for twenty-four hours; then transfer to a percolator, and, when the tincture ceases to pass, continue the percolation with successive portions of spirit until it ceases to dissolve anything more. Add to the tincture four fluid ounces of the water, and distil off the spirit by a water-bath. Remove the residue while hot to an open dish, and allow it to become cold. Pour off the supernatant fluid from the resin, wash this two or three times with hot water, and dry it on a porcelain plate by the heat of a stove or water-bath.

Characters.—In dark-brown opaque fragments, translucent at the edges, brittle, breaking with a resinous fracture, readily reduced to a pale brown powder, sweetish in odour, acrid in the throat, easily soluble in rectified spirit, but only partially so in ether, and insoluble in oil of turpentine.

Dose.—2 to 5 grains.

KAMALA.

KAMALA.

A powder which consists of the minute glands that cover the capsules of Rottlera tinctoria, *Roxb. Corom.* plate 168. Imported from India.

Characters.—A fine granular mobile powder, of a brick-red colour; it is with difficulty mixed with water, but when boiled with alcohol the greater part is dissolved, forming a red solution. Ether dissolves most of it; the residue consisting principally of tufted hairs. It should be free from sand or earthy impurities.

Dose.—30 grains to $\frac{1}{4}$ ounce.

KINO.

Kino.

The inspissated juice obtained from incisions made in the trunk of Pterocarpus Marsupium, *DC.; Roxb. Corom.* plate 116. Imported from Malabar.

Characters.—In small angular brittle glistening reddish-black fragments, translucent and ruby-red on the edges, inodorous, very astringent. When chewed it tinges the saliva blood-red.

Dose.—10 to 30 grains.

Preparations.

Pulvis Catechu compositus .	1 part in 5
,, Kino compositus . .	$3\frac{3}{4}$ parts in 5
Tinctura Kino	2 ounces to 1 pint

KRAMERIÆ RADIX.

Rhatany Root.

The dried root of Krameria triandra, *Ruiz and Pavon, Flor. Peruv.; Steph. and Church. Med. Bot.* plate 72. Imported from Peru.

Characters.—About an inch in diameter, branches numerous, long, brownish-red and rough externally, reddish-yellow internally, strongly astringent, tinging the saliva red.

Preparations.

Extractum Krameriæ	
Infusum Krameriæ . . .	1 ounce to 1 pint
Pulvis Catechu compositus .	1 part in 5
Tinctura Krameriæ . .	$2\frac{1}{2}$ ounces to 1 pint

LAC.

MILK.

The fresh milk of the Cow, Bos Taurus, *Linn.*

Preparation in which Milk is used.—Mistura Scammonii.

LACTUCA.

LETTUCE.

The flowering herb of Lactuca virosa, *Linn.*

Preparation.—Extractum Lactucæ.

LAUROCERASI FOLIA.

CHERRY-LAUREL LEAVES.

The fresh leaves of Prunus Laurocerasus, *Linn.* The Common or Cherry Laurel. *Steph. and Church. Med. Bot.* plate 117.

Characters.—Ovate-lanceolate or elliptical, distantly toothed, furnished with glands at the base, smooth and shining, deep green, on strong short footstalks; emitting a ratafia odour when bruised.

Preparation.—Aqua Laurocerasi, 1 pound to 1 pint.

LIMONIS CORTEX.

LEMON PEEL.

The outer part of the rind of the fresh fruit of Citrus Limonum, *DC.; Steph. and Church. Med. Bot.* (*Citrus Medica*), plate 92. Lemons are imported from southern Europe.

Preparations.

Infusum Aurantii compositum .	120 grains to 1 pint
,, Gentianæ compositum .	½ ounce to 1 pint
Oleum Limonis	
Syrupus Limonis . . .	1 ounce to 1¾ pound
Tinctura Limonis . . .	2½ ounces to 1 pint

LIMONIS SUCCUS.

LEMON JUICE.

The freshly expressed juice of the ripe fruit of Citrus Limonum, *DC.*

Characters.—A slightly turbid yellowish liquor, possessing a sharp acid taste, and grateful odour. Average specific gravity 1·039. Average quantity of citric acid in 1 fluid ounce, 32·5 grains.

Preparation.—Syrupus Limonis, 1 pint to 3½ pounds.

LINI FARINA.

LINSEED MEAL.

The cake of linseed from which the oil has been pressed, reduced to powder.

Preparations.

Cataplasma Lini
,, Carbonis
,, Conii
Cataplasma Sinapis
,, Sodæ Chloratæ

LINI SEMINA.

LINSEED.

The seeds of Linum usitatissimum, *Linn.*; *Woodv. Med. Bot.* plate 3. Cultivated in Britain.

Characters.—Small, oval, pointed, flat, with acute edges, smooth, shining, brown externally, yellowish-white within, of a mucilaginous oily taste.

Preparations.

Farina Lini	
Infusum Lini	16 grains to 1 fluid ounce
Oleum Lini	

LINIMENTUM ACONITI.

LINIMENT OF ACONITE.

Take of

Aconite Root, in coarse powder	20 ounces
Camphor	1 ounce
Rectified Spirit	a sufficiency

Moisten the aconite with some of the spirit, and macerate in a closed vessel for three days: then transfer to a percolator, and adding more spirit percolate slowly into a receiver containing the camphor, until the product measures one pint.

LINIMENTUM AMMONIÆ.

LINIMENT OF AMMONIA.

Take of

Solution of Ammonia	1 fluid ounce
Olive Oil	3 fluid ounces

Mix together with agitation.

LINIMENTUM BELLADONNÆ.

Liniment of Belladonna.

Take of

Belladonna Root, in coarse powder	20 ounces
Camphor	1 ounce
Rectified Spirit	a sufficiency

Moisten the belladonna with some of the spirit, and macerate in a closed vessel for three days: then transfer to a percolator, and adding more spirit percolate slowly into a receiver containing the camphor, until the product measures one pint.

LINIMENTUM CALCIS.

Liniment of Lime.

Take of

Solution of Lime	of each 2 fluid ounces
Olive Oil	

Mix together with agitation.

LINIMENTUM CAMPHORÆ.

Liniment of Camphor.

Take of

Camphor	1 ounce
Olive Oil	4 fluid ounces

Dissolve the camphor in the oil.

Preparations in which Liniment of Camphor is used.

Linimentum Chloroformi	1 volume in 2
,, Hydrargyri	
,, Terebinthinæ aceticum	1 volume in 3

LINIMENTUM CAMPHORÆ COMPOSITUM.

Compound Liniment of Camphor.

Take of

Camphor		2½ ounces
Oil of Lavender		1 fluid drachm
Strong Solution of Ammonia		5 fluid ounces
Rectified Spirit		15 fluid ounces

Dissolve the camphor and oil of lavender in the spirit; then add the solution of ammonia gradually, shaking them together until a clear solution is formed.

LINIMENTUM CHLOROFORMI.

Liniment of Chloroform.

Take of

Chloroform Liniment of Camphor	of each	2 fluid ounces

Mix.

LINIMENTUM CROTONIS.

Liniment of Croton Oil.

Take of

Croton Oil		1 fluid ounce
Oil of Cajuput Rectified Spirit	of each	3½ fluid ounces

Mix.

LINIMENTUM HYDRARGYRI.

Liniment of Mercury.

Take of

Ointment of Mercury		1 ounce
Solution of Ammonia Liniment of Camphor	of each	1 fluid ounce

Liquefy the ointment of mercury in the liniment of camphor with a gentle heat; then add the solution of ammonia gradually and mix with agitation.

LINIMENTUM IODI.

Liniment of Iodine.*

Take of

Iodine	1¼ ounce
Iodide of Potassium	½ ounce
Camphor	¼ ounce
Rectified Spirit	10 fluid ounces

Dissolve the iodine, iodide of potassium and camphor in the spirit.

LINIMENTUM OPII.

Liniment of Opium.

Take of

Tincture of Opium Liniment of Soap	of each	2 fluid ounces

Mix.

LINIMENTUM POTASSII IODIDI CUM SAPONE.

Liniment of Iodide of Potassium and Soap.

Take of

Hard Soap, cut small Iodide of Potassium	of each	1½ ounce
Glycerine		1 fluid ounce
Oil of Lemon		1 fluid drachm
Distilled Water		10 fluid ounces

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* This is half the strength of Linimentum Iodi 1864. The camphor is now introduced.

Dissolve the soap in seven fluid ounces of the water by the heat of a water-bath. Dissolve the iodide of potassium and glycerine in the remainder of the water, and mix the two solutions together. When the mixture is cold add the oil of lemon and mix the whole thoroughly.

LINIMENTUM SAPONIS.

LINIMENT OF SOAP.

Take of

Hard Soap, cut small . . .	2½ ounces
Camphor	1¼ ounce
Oil of Rosemary	3 fluid drachms
Rectified Spirit	18 fluid ounces
Distilled Water	2 fluid ounces

Mix the water with the spirit, and add the oil of rosemary, the soap, and the camphor. Macerate for seven days at a temperature not exceeding 70° with occasional agitation, and filter.

Preparation.—Linimentum Opii.

LINIMENTUM SINAPIS COMPOSITUM.

COMPOUND LINIMENT OF MUSTARD.

Take of

Oil of Mustard	1 fluid drachm
Ethereal Extract of Mezereon . .	40 grains
Camphor	120 grains
Castor Oil	5 fluid drachms
Rectified Spirit	4 fluid ounces

Dissolve the extract of mezereon and camphor in the spirit, and add the oil of mustard and castor oil.

LINIMENTUM TEREBINTHINÆ.

Liniment of Turpentine.

Take of

Soft Soap	2 ounces
Camphor	1 ounce
Oil of Turpentine	16 fluid ounces

Dissolve the camphor in the oil of turpentine, then add the soap, rubbing them together until they are thoroughly mixed.

LINIMENTUM TEREBINTHINÆ ACETICUM.

Liniment of Turpentine and Acetic Acid.

Take of

Oil of Turpentine	of each	1 fluid ounce
Acetic Acid		
Liniment of Camphor		

Mix.

LIQUOR AMMONIÆ.

Solution of Ammonia.

Ammoniacal gas, NH_3 or $\mathbf{NH}_3$, dissolved in water.

Take of

Strong Solution of Ammonia	1 pint
Distilled Water	2 pints

Mix, and preserve in a stoppered bottle.

Tests.—Specific gravity 0·959. 85 grains by weight require for neutralisation 500 grain-measures of the volumetric solution of oxalic acid, corresponding to 10 per cent. by weight of ammonia, NH_3 or $\mathbf{NH}_3$. One fluid drachm contains 5·2 grains of ammonia.

Preparation.

Linimentum Ammoniæ	1 volume in 4

LIQUOR AMMONIÆ ACETATIS.

SOLUTION OF ACETATE OF AMMONIA.*

Acetate of Ammonia, $NH_4O,C_4H_3O_3$ or $\mathbf{NH_4.C_2H_3O_2}$, dissolved in water.

Take of

Acetic Acid	10 fluid ounces
Carbonate of Ammonia . .	3¼ ounces or a sufficiency
Distilled Water	2½ pints

Reduce the carbonate of ammonia to powder, and add it gradually to the acetic acid, until a neutral solution is formed, then add the water.

Dose.—2 to 6 fluid drachms.

LIQUOR AMMONIÆ CITRATIS.

SOLUTION OF CITRATE OF AMMONIA.

Citrate of Ammonia, $3NH_4O,C_{12}H_5O_{11}$ or $\mathbf{3NH_4.C_6H_5O_7}$, dissolved in water.

Take of

Citric Acid	3 ounces
Strong Solution of Ammonia .	2¾ fluid ounces or a sufficiency
Distilled Water	1 pint

Dissolve the citric acid in the water and add the solution of ammonia until the liquid is neutral to test papers.

Dose.—2 to 6 fluid drachms.

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* This nearly corresponds with Liquor Ammoniæ Acetatis, Lond. and Edin.; it is about ⅓ stronger than the *Dubl.*, and only ⅕th the strength of Liquor Ammoniæ Acetatis, 1864.

LIQUOR AMMONIÆ FORTIOR.

Strong Solution of Ammonia.

Ammoniacal gas NH_3, or $\mathbf{NH_3}$, dissolved in water, and constituting 32·5 per cent. of the solution.

It may be obtained by the following process:—

Take of

Chloride of Ammonium, in coarse powder	3 pounds
Slaked Lime	4 pounds
Distilled Water	32 fluid ounces

Mix the lime with the chloride of ammonium, and introduce the mixture into an iron bottle placed in a metal pot surrounded by sand. Connect the iron tube, which screws airtight into the bottle in the usual manner, by corks, glass tubes, and caoutchouc collars, with a Woulf's bottle capable of holding a pint: connect this with a second Woulf's bottle of the same size, the second bottle with a matrass of the capacity of three pints in which twenty-two ounces of the distilled water are placed, and the matrass, by means of a tube bent twice at right angles, with an ordinary bottle containing the remaining ten ounces of distilled water. Bottles 1 and 2 are empty, and the latter and the matrass which contains the twenty-two ounces of distilled water are furnished each with a siphon safety tube charged with a very short column of mercury. The heat of a fire, which should be very gradually raised, is now to be applied to the metal pot, and continued until bubbles of condensible gas cease to escape from the extremity of the glass tube which dips into the water of the matrass. The process being terminated the matrass will contain about forty-three fluid ounces of strong solution of ammonia.

Bottles 1 and 2 will now include, the first about sixteen, the second about ten fluid ounces of a coloured ammoniacal liquid. Place this in a flask closed by a cork, which should be perforated by a siphon safety tube containing a little mercury, and also by a second tube bent twice at right angles, and made to pass to the bottom of the terminal bottle used in the preceding process. Apply heat to the flask until the coloured liquid it contains is reduced to three-fourths of its original bulk. The product now contained in the terminal bottle will be nearly of the strength of solution of ammonia, and may be made exactly so by the addition of the proper quantity of distilled water or of strong solution of ammonia.

Characters and Tests.—A colourless liquid, with a characteristic and very pungent odour, and strong alkaline reaction. Specific gravity 0·891. 52·3 grains by weight require for neutralisation 1000 grain-measures of the volumetric solution of oxalic acid. One fluid drachm contains 15·83 grains of ammonia, NH_3 or $\mathbf{NH_3}$. When diluted with four times its volume of distilled water, it does not give precipitates with solution of lime, oxalate of ammonia, sulphide of ammonium, or ammonio-sulphate of copper; and, when treated with an excess of nitric acid, is not rendered turbid by nitrate of silver, or by chloride of barium.

Preparations in which Strong Solution of Ammonia is used.

Ammoniæ Phosphas
Linimentum Camphoræ compositum
Liquor Ammoniæ
,, ,, Citratis
Spiritus Ammoniæ aromaticus
Tinctura Opii Ammoniata

LIQUOR ANTIMONII CHLORIDI.

SOLUTION OF CHLORIDE OF ANTIMONY.

Take of

Black Antimony	1 pound
Hydrochloric Acid	4 pints

Place the black antimony in a porcelain vessel; pour upon it the hydrochloric acid, and, constantly stirring, apply to the mixture, beneath a flue with a good draught, a gentle heat, which must be gradually augmented as the evolution of gas begins to slacken, until the liquid boils. Maintain it at this temperature for fifteen minutes; then remove the vessel from the fire, and filter the liquid through calico into another vessel, returning what passes through first, that a perfectly clear solution may be obtained. Boil this down to the bulk of two pints, and preserve it in a stoppered bottle.

Characters and Tests.—A heavy liquid usually of a yellowish-red colour. A little of it dropped into water gives a white precipitate, and the filtered solution lets fall a copious deposit on the addition of nitrate of silver. If the white precipitate formed by water be treated with sulphuretted hydrogen it becomes orange-coloured. The specific gravity of the solution is 1·47. One fluid drachm of it mixed with a solution of a quarter of an ounce of tartaric acid in four fluid ounces of water, forms a clear solution, which, if treated with sulphuretted hydrogen, gives an orange precipitate, weighing, when washed and dried at 212°, at least 22 grains.

Preparation in which Solution of Chloride of Antimony is used.

Antimonii Oxidum

LIQUOR ARSENICALIS.

ARSENICAL SOLUTION.

Synonyms.—LIQUOR POTASSÆ ARSENITIS, *Lond.*
FOWLER'S SOLUTION.

Take of

Arsenious Acid, in powder Carbonate of Potash . .	of each .	80 grains
Compound Tincture of Lavender	.	5 fluid drachms
Distilled Water . . .	.	a sufficiency

Place the arsenious acid and the carbonate of potash in a flask with ten ounces of the water, and apply heat until a clear solution is obtained. Allow this to cool. Then add the compound tincture of lavender, and as much distilled water as will make the bulk one pint.

Characters and Tests.—A reddish liquid, alkaline to test paper, and having the odour of lavender. Specific gravity 1·009. After being acidulated with hydrochloric acid it gives, with sulphuretted hydrogen, a yellow precipitate, which is brightest when the arsenical solution has been previously diluted. 441·5 grains by weight (1 fluid ounce) boiled for five minutes with ten grains of bicarbonate of soda and when cold diluted with six fluid ounces of water to which a little mucilage of starch has been added, does not give with the volumetric solution of iodine a permanent blue colour until 808 grain-measures have been added; corresponding to 4 grains of arsenious acid in one fluid ounce.

Dose.—2 to 8 minims.

LIQUOR ARSENICI HYDROCHLORICUS.

HYDROCHLORIC SOLUTION OF ARSENIC.*

Take of

Arsenious Acid, in powder . . .	80 grains
Hydrochloric Acid	2 fluid drachms
Distilled Water	a sufficiency

Boil the arsenious acid with the hydrochloric acid and four ounces of the water until it is dissolved, then add distilled water to make the bulk up to one pint.

Characters and Tests.—A colourless liquid, having an acid reaction. Specific gravity 1·009. Sulphuretted hydrogen gives at once a bright yellow precipitate. 441·5 grains by weight (1 fluid ounce) boiled for five minutes with twenty grains of bicarbonate of soda and then diluted with six fluid ounces of distilled water to which a little mucilage of starch has been added, does not give with the volumetric solution of iodine a permanent blue colour until 808 grain-measures have been added; corresponding to 4 grains of arsenious acid in one fluid ounce.

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* This solution corresponds in strength with Liquor Arsenicalis; it is nearly three times the strength of Liquor Arsenici Chloridi, *Lond.*

Dose.—2 to 8 minims.

LIQUOR ATROPIÆ.

SOLUTION OF ATROPIA.

Take of

Atropia	4 grains
Rectified Spirit	1 fluid drachm
Distilled Water	7 fluid drachms

Dissolve the atropia in the spirit, and add this gradually to the water, shaking them together.

LIQUOR ATROPIÆ SULPHATIS.

SOLUTION OF SULPHATE OF ATROPIA.

Take of

Sulphate of Atropia	4 grains
Distilled Water	1 fluid ounce

Dissolve.

LIQUOR BISMUTHI ET AMMONIÆ CITRATIS.

SOLUTION OF CITRATE OF BISMUTH AND AMMONIA.

Take of

Purified Bismuth	430 grains
Nitric Acid	2 fluid ounces
Citric Acid	2 ounces
Solution of Ammonia Distilled Water of each	a sufficiency

Mix the nitric acid with an ounce of distilled water, and add the bismuth in successive portions. When effervescence has ceased, apply for ten minutes a heat approaching that of ebullition, and decant the solution from any insoluble matter that may be present. Evaporate the solution until it is reduced to two fluid ounces, then add the citric acid previously dissolved in four ounces of distilled water, and afterwards the solution of ammonia in small quantities at a time until the precipitate formed is redissolved, and the solution is neutral or slightly alkaline to test-paper. Dilute with distilled water to the volume of one pint.

Characters and Tests.—A colourless solution with a saline and slightly metallic taste. Specific gravity 1·122. Neutral or slightly alkaline to test-paper; mixes with water without change; heated with solution of potash it evolves ammonia, and yields a white precipitate. Hydrochloric acid added to it gives a white precipitate which is soluble in excess of the reagent. Three fluid drachms of the solution mixed with an ounce of distilled water, and treated with sulphuretted hydrogen in excess, yield a black precipitate, which, collected, washed, and dried, weighs 9·92 grains.

One fluid drachm contains 3 grains of oxide of bismuth.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

LIQUOR CALCIS.

SOLUTION OF LIME.

Synonym.—AQUA CALCIS.
LIME WATER.

Take of

Slaked Lime	2 ounces
Distilled Water	1 gallon

Put the lime into a stoppered bottle containing the water; and shake well for two or three minutes. After twelve hours the excess of lime will have subsided, and the clear solution may be drawn off with a siphon as it is required for use, or transferred to a green glass bottle furnished with a well-ground stopper.

Test.—Ten fluid ounces require for neutralisation at least 200 grain-measures of the volumetric solution of oxalic acid, which corresponds to 5·6 grains of lime, CaO or **CaO**.

Dose.—1 to 4 fluid ounces.

Preparations in which Solution of Lime is used.

Argenti Oxidum
Linimentum Calcis
Lotio Hydrargyri Flava
„ Hydrargyri Nigra

LIQUOR CALCIS CHLORATÆ.

SOLUTION OF CHLORINATED LIME.

Take of

Chlorinated Lime	1 pound
Distilled Water	1 gallon

Mix well the water and the chlorinated lime by trituration in a large mortar, and, having transferred the mixture to a stoppered bottle, let it be well shaken several times for the space of three hours. Pour out now the contents of the bottle on a calico filter, and let the solution which passes through be preserved in a stoppered bottle.

Tests.—Specific gravity 1·035. 60 grains by weight mixed with twenty grains of iodide of potassium dissolved in four fluid ounces of water, when acidulated with two fluid drachms of hydrochloric acid, gives a red solution which requires for the discharge of its colour 500 grain-measures of the volumetric solution of hyposulphite of soda, corresponding to 13 grains of available chlorine in a fluid ounce.

LIQUOR CALCIS SACCHARATUS.

SACCHARATED SOLUTION OF LIME.

Take of

Slaked Lime	1 ounce
Refined Sugar, in powder . . .	2 ounces
Distilled Water	1 pint

Mix the lime and the sugar by trituration in a mortar. Transfer the mixture to a bottle containing the water, and having closed this with a cork shake it occasionally for a few hours. Finally separate the clear solution with a siphon, and keep it in a stoppered bottle.

Tests.—Specific gravity 1·052. 460·2 grains by weight (1 fluid ounce) require for neutralisation 254 grain-measures of the volumetric solution of oxalic acid, which corresponds to 7·11 grains of lime in 1 fluid ounce.

Dose.—15 to 60 minims.

LIQUOR CHLORI.

SOLUTION OF CHLORINE.

Chlorine gas dissolved in water.

Take of

Hydrochloric Acid	6 fluid ounces
Black Oxide of Manganese, in fine powder	1 ounce
Distilled Water	34 fluid ounces

Put the oxide of manganese into a gas-bottle, and, having poured upon it the hydrochloric acid diluted with two ounces of the water, apply a gentle heat, and, by suitable tubes, cause the gas, as it is developed, to pass through two ounces of the water placed in an intermediate small phial, and thence to the bottom of a three-pint bottle containing the remainder of the water, the mouth of which is loosely plugged with tow. As soon as the chlorine ceases to be developed, let the bottle be disconnected from the apparatus in which the gas has been generated, corked loosely, and shaken until the chlorine is absorbed. Lastly, introduce the solution into a green-glass bottle furnished with a well-fitting stopper, and keep it in a cool and dark place.

Characters and Tests.—A yellowish-green liquid, smelling strongly of chlorine, and immediately discharging the colour of a dilute solution of sulphate of indigo. Specific gravity

1·003. Evaporated it leaves no residue. When twenty grains of iodide of potassium dissolved in an ounce of distilled water are added to 439 grains by weight (1 fluid ounce) of this preparation, the mixed solution acquires a deep red colour, which requires for its discharge 750 grain-measures of the volumetric solution of hyposulphite of soda, corresponding to 2·66 grains of chlorine.

Dose.—10 to 20 minims.

LIQUOR EPISPASTICUS.

Blistering Liquid.

Synonym.—Linimentum Cantharidis, 1864.

Take of

Cantharides, in powder . . .	8 ounces
Acetic Acid	4 fluid ounces
Ether	a sufficiency

Mix the cantharides and acetic acid; pack them in a percolator, and at the expiration of twenty-four hours pour ether over the contents of the percolator, and allow it to pass slowly through till twenty fluid ounces are obtained. Keep it in a stoppered bottle.

LIQUOR FERRI PERCHLORIDI.

Solution of Perchloride of Iron.*

The same strength as Tincture of Perchloride of Iron.

Take of

Strong Solution of Perchloride of Iron	5 fluid ounces
Distilled Water	15 fluid ounces

Mix.

Dose.—10 to 30 minims.

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* This is one-fourth the strength of Liquor Ferri Perchloridi, 1864.

LIQUOR FERRI PERCHLORIDI FORTIOR.

STRONG SOLUTION OF PERCHLORIDE OF IRON.

Synonym.—LIQUOR FERRI PERCHLORIDI, 1864.

Take of

Iron Wire	2 ounces
Hydrochloric Acid	12 fluid ounces
Nitric Acid	9 fluid drachms
Distilled Water	8 fluid ounces

Mix eight fluid ounces of the hydrochloric acid with the distilled water and in this dissolve the iron at a gentle heat. Filter the solution, add to it the remainder of the hydrochloric acid and the nitric acid, heat the mixture briskly until on the sudden evolution of red fumes the liquid becomes of an orange-brown colour, then evaporate by the heat of a water-bath until it is reduced to ten fluid ounces.

Characters and Tests.—An orange-brown solution with a strong styptic taste, miscible with water and rectified spirit in all proportions. Diluted with water it is precipitated white by nitrate of silver, and blue by yellow prussiate of potash, but not at all by red prussiate of potash. Specific gravity 1·338. A fluid drachm of it diluted with two fluid ounces of water gives, upon the addition of an excess of solution of ammonia, a reddish-brown precipitate, which, when well washed and incinerated, weighs 15·62 grains.

Preparations in which Strong Solution of Perchloride of Iron is used.

Liquor Ferri Perchloridi	1 volume in 4
Tinctura Ferri Perchloridi	1 volume in 4

LIQUOR FERRI PERNITRATIS.

SOLUTION OF PERNITRATE OF IRON.

Take of

Fine Iron Wire, free from rust	1 ounce
Nitric Acid	4½ fluid ounces
Distilled Water	a sufficiency

Dilute the nitric acid with sixteen ounces of the water, introduce the iron wire into the mixture, and leave them in contact until the metal is dissolved, taking care to moderate the action, should it become too violent, by the addition of a little more distilled water. Filter the solution, and add to it as much distilled water as will make its bulk one pint and a half.

Characters and Tests.—A clear solution of a reddish-brown colour, slightly acid and astringent to the taste; gives a blue precipitate with the yellow prussiate of potash. When to a little of it placed in a test tube half its volume of pure sulphuric acid is added, and then a solution of sulphate of iron is poured on, the whole assumes a dark-brown colour. Specific gravity 1·107. One fluid drachm treated with an excess of solution of ammonia gives a precipitate which, when washed, dried, and incinerated, weighs 2·6 grains. It gives no precipitate with red prussiate of potash.

Dose.—10 to 40 minims.

LIQUOR FERRI PERSULPHATIS.

SOLUTION OF PERSULPHATE OF IRON.

Take of

Sulphate of Iron	8 ounces
Sulphuric Acid Nitric Acid } of each	6 fluid drachms
Distilled Water	12 fluid ounces, or a sufficiency

Add the sulphuric acid to ten ounces of the water, and dissolve the sulphate of iron in the mixture with the aid of heat. Mix the nitric acid with the remaining two ounces of the water, and add the dilute acid to the solution of sulphate of iron. Concentrate the whole by boiling, until, by the sudden disengagement of ruddy vapours, the liquid ceases to be black and acquires a red colour. A drop of the solution is now to be tested with red prussiate of potash, and if a blue precipitate forms, a few additional drops of nitric acid should be added, and the boiling renewed, in order that the whole of the sulphate may be converted into persulphate of iron. When the solution is cold, make the quantity eleven fluid ounces by the addition, if necessary, of distilled water.

Characters and Tests.—A dense solution of a dark-red colour, inodorous and very astringent, miscible in all proportions with alcohol and water. Diluted with ten volumes of water, it gives a white precipitate with chloride of barium, and a blue precipitate with yellow, but not with red, prussiate of potash. Specific gravity, 1·441. One fluid drachm diluted with two ounces of distilled water gives, upon the addition of an excess of solution of ammonia, a precipitate which, when well washed and incinerated, weighs 11·44 grains.

Preparations in which Solution of Persulphate of Iron is used.

Ferri et Ammoniæ Citras
,, et Quiniæ Citras
,, Oxidum magneticum
Ferri Peroxidum humidum
Ferrum Tartaratum
Tinctura Ferri Acetatis

LIQUOR HYDRARGYRI NITRATIS ACIDUS.

ACID SOLUTION OF NITRATE OF MERCURY.

Take of

Mercury	4 ounces
Nitric Acid	5 fluid ounces
Distilled Water	$1\frac{1}{2}$ fluid ounce

Mix the nitric acid with the water in a flask; and dissolve the mercury in the mixture without the application of heat. Boil gently for fifteen minutes, cool, and preserve the solution in a stoppered bottle.

Characters and Tests.—A colourless and strongly acid solution, which gives a yellow precipitate with solution of potash added in excess. If a crystal of sulphate of iron be dropped into it, in a little time the salt of iron, and the liquid in its vicinity, acquire a dark colour. Specific gravity 2·246. Does not give any precipitate when a little of it is dropped into hydrochloric acid diluted with twice its volume of water.

LIQUOR HYDRARGYRI PERCHLORIDI.

SOLUTION OF PERCHLORIDE OF MERCURY.

Synonym.—LIQUOR HYDRARGYRI BICHLORIDI, *Lond.*

Take of

Perchloride of Mercury Chloride of Ammonium	of each	10 grains
Distilled Water		1 pint

Dissolve.

Dose.—$\frac{1}{2}$ fluid drachm to 2 fluid drachms.

LIQUOR IODI.

SOLUTION OF IODINE.

Take of

Iodine	20 grains
Iodide of Potassium	30 grains
Distilled Water	1 fluid ounce

Dissolve.

LIQUOR LITHIÆ EFFERVESCENS.

EFFERVESCING SOLUTION OF LITHIA.

Synonyms.—AQUA LITHIÆ EFFERVESCENS.
LITHIA WATER.

Take of

Carbonate of Lithia	10 grains
Water	1 pint

Mix in a suitable apparatus, and pass into it as much pure washed carbonic acid gas, obtained by the action of sulphuric acid on chalk, as can be introduced with a pressure of seven atmospheres. Keep the solution in bottles securely closed, to prevent the escape of the compressed gas.

Characters and Tests.—Effervesces strongly when the containing vessel is opened, carbonic acid gas escaping. The liquid is clear and sparkling, and has an agreeable acidulous taste. Half a pint of it, evaporated to dryness, yields 5 grains of a white solid residue, answering to the tests for carbonate of lithia.

Dose.—5 to 10 fluid ounces.

LIQUOR MAGNESIÆ CARBONATIS.

SOLUTION OF CARBONATE OF MAGNESIA.

Synonym.—FLUID MAGNESIA.

Take of

Sulphate of Magnesia	2 ounces
Carbonate of Soda	2½ ounces
Distilled Water	a sufficiency

Dissolve the two salts separately each in half a pint of water. Heat the solution of sulphate of magnesia to the boiling point, then add to it the solution of carbonate of soda, and boil them together until carbonic acid ceases to be evolved. Collect the precipitated carbonate of magnesia on a calico filter and wash it with distilled water until what passes ceases to give a precipitate with chloride of barium. Mix the washed precipitate with a pint of distilled water, and, putting them into a suitable apparatus, pass into it pure washed carbonic acid gas obtained by the action of sulphuric acid on chalk. Let the mixture remain in contact with excess of carbonic acid, retained there under pressure for about 24 hours, then filter the liquid to remove any undissolved carbonate of magnesia, and again pass carbonic acid gas into the filtered solution. Finally, keep the solution in a bottle securely closed, to prevent the escape of carbonic acid.

This solution contains about 13 grains of carbonate of magnesia in a fluid ounce.

Characters and Tests.—Effervesces slightly, or not at all, when the containing vessel is first opened. The liquid is clear and free from any bitter taste. A fluid ounce of it, evaporated to dryness, yields a white solid residue, which after being calcined weighs not less than 5 grains. This residue is insoluble in water and answers to the tests for magnesia.

Dose.—1 to 2 fluid ounces.

LIQUOR MORPHIÆ ACETATIS.

SOLUTION OF ACETATE OF MORPHIA.*

Take of

Acetate of Morphia . . .	4 grains
Diluted Acetic Acid . . .	8 minims
Rectified Spirit	2 fluid drachms
Distilled Water	6 fluid drachms

Mix the acid, the spirit, and the water, and dissolve the acetate of morphia in the mixture.

Dose.—10 to 60 minims.

LIQUOR MORPHIÆ HYDROCHLORATIS.

SOLUTION OF HYDROCHLORATE OF MORPHIA.†

Take of

Hydrochlorate of Morphia . .	4 grains
Diluted Hydrochloric Acid . .	8 minims
Rectified Spirit	2 fluid drachms
Distilled Water	6 fluid drachms

Mix the hydrochloric acid, the spirit, and the water, and dissolve the hydrochlorate of morphia in the mixture.

Dose.—10 to 60 minims.

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[*] This solution contains half as much Morphia as the Liquor Morphiæ Acetatis, *Lond.*

[†] This solution contains half as much Morphia as Liquor Morphiæ Hydrochloratis, *Lond.*

LIQUOR PLUMBI SUBACETATIS.

SOLUTION OF SUBACETATE OF LEAD.

Subacetate of Lead, $2PbO,C_4H_3O_3$ or $Pb_2C_4H_6O_5$, dissolved in water.

Take of

Acetate of Lead . . .	5 ounces
Oxide of Lead, in powder .	3½ ounces
Distilled Water . . .	1 pint, or a sufficiency

Boil the acetate of lead and the oxide of lead in the water for half an hour, constantly stirring; then filter, and when the liquid is cold add to it more distilled water, until the product measures twenty fluid ounces. Keep the clear solution in stoppered bottles.

Characters and Tests.—A dense clear colourless liquid, with alkaline reaction and sweet astringent taste, becoming turbid by exposure to the air; and forming with mucilage of gum arabic an opaque white jelly. Sulphuric acid in excess gives a white precipitate, acetic acid being set free. Specific gravity 1·26. 413·3 grains by weight (6 fluid drachms) require for perfect precipitation 810 grain-measures of the volumetric solution of oxalic acid.

Preparations.—Liquor Plumbi Subacetatis dilutus, Unguentum Plumbi Subacetatis compositum.

LIQUOR PLUMBI SUBACETATIS DILUTUS.

DILUTED SOLUTION OF SUBACETATE OF LEAD.

Take of

Solution of Subacetate of Lead . . . Rectified Spirit . .	of each .	2 fluid drachms
Distilled Water		19½ fluid ounces

Mix, and filter through paper. Keep the clear solution in a stoppered bottle.

LIQUOR POTASSÆ.

Solution of Potash.

Take of

Carbonate of Potash	1 pound
Slaked Lime	12 ounces
Distilled Water	1 gallon

Dissolve the carbonate of potash in the water; and, having heated the solution to the boiling point in a clean iron vessel, gradually mix with it the slaked lime, and continue the ebullition for ten minutes with constant stirring. Then remove the vessel from the fire; and when by the subsidence of the insoluble matter the supernatant liquor has become perfectly clear, transfer it by means of a siphon to a green-glass bottle furnished with an air-tight stopper, and add distilled water, if necessary, to make it correspond with the tests of specific gravity and neutralising power.

Tests.—Specific gravity 1·058. 462·9 grains by weight (1 fluid ounce) require for neutralisation 482 grain-measures of the volumetric solution of oxalic acid, corresponding to 5·84 per cent. by weight of hydrate of potash, KO,HO or **KHO**. It does not effervesce when added to an excess of diluted hydrochloric acid. Mixed with an equal volume of distilled water it gives no precipitate with solution of lime or oxalate of ammonia. When it is treated with an excess of diluted nitric acid, and evaporated to dryness, the residue forms with water a nearly clear solution, which may be slightly precipitated by chloride of barium and nitrate of silver, but is unaffected, or but very slightly affected, by ammonia. One fluid ounce contains 27 grains of hydrate of potash.

Dose.—15 to 60 minims.

LIQUOR POTASSÆ EFFERVESCENS.

Effervescing Solution of Potash.

Synonyms.—Aqua Potassæ Effervescens.
Potash Water.

Take of

Bicarbonate of Potash	30 grains
Water	1 pint

Dissolve the bicarbonate of potash in the water and filter the solution; then pass into it as much pure washed carbonic acid gas, obtained by the action of sulphuric acid on chalk, as can be introduced with a pressure of seven atmospheres. Keep the solution in bottles securely closed, to prevent the escape of the compressed gas.

Characters and Tests.—Effervesces strongly when the containing vessel is opened, carbonic acid gas escaping. The liquid is clear and sparkling and has an agreeable acidulous taste. Ten fluid ounces, after being boiled for five minutes, require for neutralisation 150 grain-measures of the volumetric solution of oxalic acid. Five fluid ounces, evaporated to one-fifth and 12 grains of tartaric acid added, yield a crystalline precipitate, which when dried weighs not less than 12 grains.

LIQUOR POTASSÆ PERMANGANATIS.

Solution of Permanganate of Potash.

Take of

Permanganate of Potash . . .	80 grains
Distilled Water	1 pint

Dissolve.

Dose.—2 to 4 fluid drachms.

LIQUOR SODÆ.

Solution of Soda.

Take of

Carbonate of Soda	28 ounces
Slaked Lime	12 ounces
Distilled Water	1 gallon

Dissolve the carbonate of soda in the water; and, having heated the solution to the boiling point in a clean iron vessel, gradually mix with it the slaked lime, and continue the ebullition for ten minutes with constant stirring. Then remove the vessel from the fire; and, when by the subsidence of the insoluble matter the supernatant liquor has become perfectly clear, transfer it by means of a siphon to a green-glass bottle furnished with an air-tight stopper, and add distilled water, if necessary, to make it correspond with the tests of specific gravity and neutralising power.

Tests.—Specific gravity 1·047. 458 grains by weight (1 fluid ounce) require for neutralisation 470 grain-measures of the volumetric solution of oxalic acid, corresponding to 4·1 per cent. by weight of hydrate of soda, NaO,HO or **NaHO**. It does not effervesce when added to an excess of diluted hydrochloric acid. Mixed with an equal volume of distilled water it gives no precipitate with solution of lime or oxalate of ammonia. When it is treated with an excess of diluted nitric acid, and evaporated to dryness, the residue forms with water a clear solution which is only slightly precipitated by chloride of barium or by nitrate of silver, and not at all by ammonia. One fluid ounce contains 18·8 grains of hydrate of soda.

LIQUOR SODÆ ARSENIATIS.

SOLUTION OF ARSENIATE OF SODA.

Take of

Arseniate of Soda (rendered anhydrous by a heat not exceeding 300°) .	4 grains
Distilled Water	1 fluid ounce

Dissolve.

Dose.—5 to 10 minims.

LIQUOR SODÆ CHLORATÆ.

SOLUTION OF CHLORINATED SODA.

Take of

Carbonate of Soda . . .	12 ounces
Black Oxide of Manganese . .	4 ounces
Hydrochloric Acid . . .	15 fluid ounces
Distilled Water . . .	2 pints

Dissolve the carbonate of soda in thirty-six fluid ounces of the distilled water and put the solution into a glass vessel. Mix the oxide of manganese and hydrochloric acid in a glass flask with a bent tube attached by means of a cork to its mouth, apply a gentle heat, and with a suitable arrangement of apparatus cause the gas which is evolved to pass first through a wash-bottle containing four ounces of water and then into the solution of carbonate of soda, regulating the heat so that the gas shall be slowly but constantly introduced. When the disengagement of chlorine has ceased, transfer the solution in which it has been absorbed to a stoppered bottle, and keep it in a cool and dark place.

Characters and Tests.—A colourless alkaline liquid, with astringent taste and feeble odour of chlorine. It decolorizes sulphate of indigo. It effervesces with hydrochloric acid, evolving chlorine and carbonic acid, and forming a solution which does not precipitate with perchloride of platinum. Specific gravity 1·103. 70 grains by weight, added to a solution of twenty grains of iodide of potassium in four fluid ounces of water and acidulated with two fluid drachms of hydrochloric acid, require for the discharge of the brown colour which the mixture assumes, 500 grain-measures of the volumetric solution of hyposulphite of soda. It is not precipitated by oxalate of ammonia.

Dose.—10 to 20 minims.

Preparation.—Cataplasma Sodæ Chloratæ.

LIQUOR SODÆ EFFERVESCENS.

EFFERVESCING SOLUTION OF SODA.

Synonyms.—AQUA SODÆ EFFERVESCENS.
SODA WATER.

Take of

Bicarbonate of Soda	30 grains
Water	1 pint

Dissolve the bicarbonate of soda in the water and filter the solution; then pass into it as much pure washed carbonic acid gas, obtained by the action of sulphuric acid on chalk, as can be introduced with a pressure of seven atmospheres. Keep the solution in bottles securely closed, to prevent the escape of the compressed gas.

Characters and Tests.—Effervesces strongly when the containing vessel is opened, carbonic acid gas escaping. The liquid is clear and sparkling and has an agreeable acidulous taste. Ten fluid ounces, after being boiled for five minutes, require for neutralisation 178 grain-measures of the volumetric solution of oxalic acid.

LIQUOR STRYCHNIÆ.

Solution of Strychnia.

Take of

Strychnia, in crystals . . .	4 grains
Diluted Hydrochloric Acid . .	6 minims
Rectified Spirit	2 fluid drachms
Distilled Water	6 fluid drachms

Mix the hydrochloric acid with four drachms of the water, and dissolve the strychnia in the mixture by the aid of heat. Then add the spirit and the remainder of the water.

Dose.—5 to 10 minims.

LIQUOR ZINCI CHLORIDI.

Solution of Chloride of Zinc.

Take of

Granulated Zinc	1 pound
Hydrochloric Acid	44 fluid ounces
Solution of Chlorine . . .	a sufficiency
Carbonate of Zinc	½ ounce, or a sufficiency
Distilled Water	1 pint

Mix the hydrochloric acid and water in a porcelain dish, add the zinc, and apply a gentle heat to promote the action until gas is no longer evolved. Boil for half an hour, supplying the water lost by evaporation, and allow the product to cool. Filter it into a bottle and add solution of chlorine by degrees, with frequent agitation, until the fluid acquires a permanent odour of chlorine. Add the carbonate of zinc, in small quantities at a time, and with renewed agitation, until a brown sediment appears. Filter the liquid into a porcelain basin, and evaporate until it is reduced to the bulk of two pints.

LITHIÆ CARBONAS.

CARBONATE OF LITHIA.

LO,CO_2 or L_2CO_3.

Characters and Tests.—In white powder or in minute crystalline grains, alkaline in reaction, soluble in 100 parts of cold water, insoluble in alcohol. It dissolves with effervescence in hydrochloric acid; and the solution evaporated to dryness leaves a residue of chloride of lithium, which communicates a red colour to the flame of a spirit lamp, and redissolved in water yields a precipitate with phosphate of soda. Ten grains of the salt neutralised with sulphuric acid and afterwards heated to redness leave 14·86 grains of dry sulphate of lithia, which, when redissolved in distilled water, yields no precipitate with oxalate of ammonia or solution of lime.

Dose.—3 to 6 grains.

Preparations in which Carbonate of Lithia is used.

Liquor Lithiæ Effervescens
Lithiæ Citras

LITHIÆ CITRAS.

Citrate of Lithia.

$3LO,C_{12}H_5O_{11}$ or $\mathbf{L_3C_6H_5O_7}$.

Take of

Carbonate of Lithia	50 grains
Citric Acid, in crystals . . .	90 grains
Warm Distilled Water . . .	1 fluid ounce

Dissolve the citric acid in the water, and add the carbonate of lithia in successive portions, applying heat until effervescence ceases, and a perfect solution is obtained. Evaporate by a steam or sand-bath till water ceases to escape, and the residue is converted into a viscid liquid. This should be dried in an oven or air chamber at the temperature of about 240°, then rapidly pulverised, and enclosed in a stoppered bottle.

Characters and Tests.—A white amorphous powder, deliquescent, and soluble in water without leaving any residue. Heated to redness it blackens, evolving inflammable gases; and the residue, neutralised by hydrochloric acid, yields with rectified spirit a solution which burns with a crimson flame. Twenty grains of the salt, burned at a low red heat with free access of air, leave 10·6 grains of white residue.

Dose.—5 to 10 grains.

LOBELIA.

Lobelia.

The dried flowering herb of Lobelia inflata *Linn. Berg u. Schmidt Off. Gewächse,* plate 1 *a.* Imported from North America.

Characters.—Stem angular; leaves alternate, ovate, toothed, somewhat hairy beneath; capsule ovoid, inflated, ten-ribbed; herb acrid. Usually in compressed rectangular parcels.

Preparations.

Tinctura Lobeliæ . .	54½ grains to 1 fluid ounce
,, ,, ætherea .	54½ grains to 1 fluid ounce

LOTIO HYDRARGYRI FLAVA.

YELLOW MERCURIAL LOTION.

Take of

Perchloride of Mercury	18 grains
Solution of Lime	10 fluid ounces

Mix.

LOTIO HYDRARGYRI NIGRA.

BLACK MERCURIAL LOTION.

Take of

Subchloride of Mercury	30 grains
Solution of Lime	10 fluid ounces

Mix.

LUPULUS.

HOP.

The dried strobiles of the female plant of Humulus Lupulus *Linn.* *Steph. and Church. Med. Bot.* plate 41. Cultivated in England.

Characters.—Strobiles of a greenish-yellow colour, with minute yellow grains (Lupuline) adherent to the base of the scales. Odour aromatic, taste bitter.

Preparations.

Extractum Lupuli	
Infusum Lupuli	$\frac{1}{2}$ ounce to 10 fluid ounces
Tinctura Lupuli	$2\frac{1}{2}$ ounces to 1 pint

MAGNESIA.

MAGNESIA.

MgO or **MgO.**

Take of

Carbonate of Magnesia	4 ounces

Put it into a Cornish or Hessian crucible closed loosely by a lid, and expose it to a low red heat until a small quantity taken from the centre of the crucible, when it has cooled, and dropped into diluted sulphuric acid causes no effervescence.

Characters and Tests.—A white powder, insoluble in water, but readily dissolved by acids without effervescence. Its solution in hydrochloric acid, when neutralised by a mixed solution of ammonia and chloride of ammonium, gives a copious crystalline precipitate when phosphate of soda is added to it. Dissolved in nitric acid, and neutralised with a mixture of ammonia and chloride of ammonium, it does not give any precipitate with oxalate of ammonia, or chloride of barium.

Dose.—10 to 60 grains.

Preparations of Magnesia and its Compounds.

Enema Magnesiæ Sulphatis	1 ounce Sulphate in 16 fluid ounces
Liquor Magnesiæ Carbonatis	13 grains Carbonate in 1 fluid ounce
Magnesia; Magnesia Levis	
Magnesiæ Carbonas; Magnesiæ Carbonas Levis	
,, Sulphas	
Mistura Sennæ composita	1 ounce Sulphate in 5 fluid ounces
Pulvis Rhei compositus	6 parts in 9

MAGNESIA LEVIS.

LIGHT MAGNESIA.

MgO or $\mathbf{MgO}$.

Take of

Light Carbonate of Magnesia	4 ounces

Put it into a Cornish or Hessian crucible closed loosely by a lid, and expose it to a low red heat until a small quantity taken from the centre of the crucible, when it has been cooled, and dropped into diluted sulphuric acid causes no effervescence.

Characters.—A bulky white powder differing from the preceding preparation only in its greater levity, the volumes corresponding to the same weight being to each other in the ratio of three and a half to one.

Dose.—10 to 60 grains.

Preparation.—Pulvis Rhei compositus, 6 parts in 9.

MAGNESIÆ CARBONAS.

CARBONATE OF MAGNESIA.

$(MgO,CO_2)_3 + MgO + 5HO$ or $(MgCO_3)_3.MgO.5H_2O$.

Take of

Sulphate of Magnesia	10 ounces
Carbonate of Soda	12 ounces
Boiling Distilled Water . . .	a sufficiency

Dissolve the sulphate of magnesia and the carbonate of soda each in a pint of the water, mix the two solutions, and evaporate the whole to perfect dryness, by means of a sand-bath. Digest the residue for half an hour with two pints of the water, and having collected the insoluble matter on a calico filter, wash it repeatedly with distilled water, until the washings cease to give a precipitate with chloride of barium. Finally dry the product at a temperature not exceeding 212°.

Characters and Tests.—A white granular powder, which dissolves with effervescence in the diluted mineral acids, yielding solutions which, when first treated with chloride of ammonium, are not disturbed by the addition of an excess of solution of ammonia, but yield a copious crystalline precipitate upon the addition of phosphate of soda. With excess of hydrochloric acid it forms a clear solution in which chloride of barium causes no precipitate. Another portion of the solution supersaturated with ammonia gives no precipitate with oxalic acid or sulphuretted hydrogen. Fifty grains calcined at a red heat are reduced to twenty-two.

Dose.—10 to 60 grains.

Preparations containing Carbonate of Magnesia.

Liquor Magnesiæ Carbonatis .	13 grains in 1 fluid ounce
Trochisci Bismuthi . .	2½ grains in each lozenge, nearly

MAGNESIÆ CARBONAS LEVIS.

LIGHT CARBONATE OF MAGNESIA.

$(MgO,CO_2)_3 + MgO + 5HO$ or $\mathbf{(MgCO_3)_3.MgO.5H_2O}$.

Take of

Sulphate of Magnesia	10 ounces
Carbonate of Soda	12 ounces
Distilled Water	a sufficiency

Dissolve the sulphate of magnesia and the carbonate of soda each in half a gallon of the water, mix the two solutions cold, and boil the mixture in a porcelain dish for fifteen minutes. Transfer the precipitate to a calico filter, and pour upon it repeatedly boiling distilled water, until the washings cease to give a precipitate with chloride of barium. Lastly, dry by a heat not exceeding 212°.

Characters.—A very light powder, which, when examined under the microscope, is found to be partly amorphous with numerous slender prisms intermixed. The other characters and tests are the same as those of carbonate of magnesia.

Dose.—10 to 60 grains.

MAGNESIÆ SULPHAS.

SULPHATE OF MAGNESIA.

$MgO,SO_3 + 7HO$ or $\mathbf{MgSO_4.7H_2O}$.

Characters and Tests.—In minute colourless and transparent rhombic prisms, possessing a bitter taste. It readily dissolves in water, and the solution gives copious white precipitates with chloride of barium, and with a mixed solution of ammonia, chloride of ammonium, and phosphate of soda. Its aqueous solution at ordinary temperatures is not precipitated by oxalate of ammonia. Nor should it give a brown precipitate with chlorinated lime or soda. The precipitate given by carbonate of soda, when obtained from a boiling solution of one hundred grains of the salt, should, when well washed, dried and heated to redness, weigh 16·26 grains.

Dose.—60 grains to ½ ounce.

Preparations.

Enema Magnesiæ Sulphatis .	1 ounce in 16 fluid ounces
Mistura Sennæ composita . .	1 ounce in 5 fluid ounces

MANGANESII OXIDUM NIGRUM.

Black Oxide of Manganese.

MnO_2 or $\mathbf{MnO_2}$.

Characters and Tests.—A heavy black powder, which dissolves almost entirely in hydrochloric acid with evolution of chlorine, and gives off oxygen when heated to redness.

Used for producing chlorine.

MANNA.

Manna.

A concrete saccharine exudation from the stem of Fraxinus Ornus *Linn.* and F. rotundifolia *DC. Steph. and Church. Med. Bot.* plate 53. Obtained by making incisions in the stems of the trees, which are cultivated for the purpose, chiefly in Calabria and Sicily.

Characters.—In stalactiform pieces from one to six inches in length, and one or two inches in width, uneven, porous, and friable, curved on one side, of a yellowish-white colour, with a faintly nauseous odour, and a sweetish taste. It consists principally of mannite, $C_6H_7O_6$ or $\mathbf{C_3H_7O_3}$, together with common sugar and extractive matter. The mannite, which forms from 60 to 80 per cent. of the manna, may be extracted by means of boiling rectified spirit, from which it will afterwards separate on cooling in colourless, shining crystals. It requires five parts of cold water for its solution, and this does not undergo vinous fermentation in contact with yeast.

Dose.—60 grains to 1 ounce.

MARMOR ALBUM.

WHITE MARBLE.

CaO,CO_2 or $CaCO_3$.

Hard white crystalline native carbonate of lime, in masses.

Used in producing carbonic acid gas.

MASTICHE.

MASTICH.

A resinous exudation obtained by incision from the stem of Pistacia Lentiscus *Linn.*, *Steph. and Church. Med. Bot.* plate 130, produced in the island of Scio.

Characters.—Small irregular yellowish tears, brittle, becoming soft and ductile when chewed, having a faint agreeable odour.

MATICÆ FOLIA.

MATICO LEAVES.

The dried leaves of Artanthe elongata *Miquel, Comment.*; *Ruiz and Pavon, Flor. Peruv.* (*Piper angustifolium*), plate 57. Imported from Peru.

Characters.—From two to eight inches long, veined and tesselated on the upper surface, downy beneath, with an aromatic slightly astringent warm taste, and an agreeable aromatic odour.

Preparation.

Infusum Maticæ . . . . 1 ounce to 1 pint

MEL.

HONEY.

A saccharine secretion deposited in the honeycomb, by Apis mellifica *Linn.*, the hive bee.

Characters and Test.—When recently separated from the honeycomb, it is a viscid translucent liquid, of a brownish-yellow colour, which gradually becomes partially crystalline and opaque. It has a peculiar heavy odour, and a very sweet taste. Boiled with water for five minutes and allowed to cool it does not become blue with the solution of iodine.

Preparation.—Mel depuratum.

MEL BORACIS.

BORAX HONEY.

Take of

Borax, in fine powder	64 grains	l.414
Clarified Honey	1 ounce	

Mix.

MEL DEPURATUM.

CLARIFIED HONEY.

Take of

Honey	5 pounds

Melt the honey in a water-bath, and strain, while hot, through flannel, previously moistened with warm water.

Preparations.

Confectio Piperis	15 parts in 20
,, Scammonii	1½ part in 10
,, Terebinthinæ	1 part in 2, nearly
Mel Boracis	8 parts in 9, nearly
Oxymel	40 parts in 50
,, Scillæ	

MEZEREI CORTEX.

Mezereon Bark.

The dried bark of Daphne Mezereum *Linn.*, Mezereon; *Steph. and Church. Med. Bot.* plate 65. Or of Daphne Laureola *Linn.*, Spurge Laurel; *Eng. Bot.* vol. ii. plate 119.

Characters.—In strips or quilled pieces of various lengths, tough and pliable, olive-brown on the surface, white within, fibrous, odour faintly nauseous, taste hot and acrid.

Preparations.

Decoctum Sarsæ compositum .	60 grains to 1 pint
Extractum Mezerei Æthereum	

MICA PANIS.

Crumb of Bread.

The soft part of bread made with wheat flour.

Preparation.—Cataplasma Carbonis.

MISTURA AMMONIACI.

Ammoniacum Mixture.

Take of

Ammoniacum, in coarse powder .	$\frac{1}{4}$ ounce
Distilled Water	8 fluid ounces

Triturate the ammoniacum with the water, gradually added, until the mixture assumes a milky appearance, then strain through muslin.

Dose.—$\frac{1}{2}$ to 1 fluid ounce.

MISTURA AMYGDALÆ.

ALMOND MIXTURE.

Take of

Compound Powder of Almonds	2½ ounces	
Distilled Water	1 pint	20

Rub the powder with a little of the water into a thin paste, then add the remainder of the water, and strain through muslin.

Dose.—1 to 2 fluid ounces.

MISTURA CREASOTI.

CREASOTE MIXTURE.

Take of

Creasote Glacial Acetic Acid } of each	16 minims	6
Spirit of Juniper	½ fluid drachm	2
Syrup	1 fluid ounce	32
Distilled Water	15 fluid ounces	

Mix the creasote with the acetic acid, gradually add the water, and lastly the syrup and spirit of juniper.

Dose.—1 to 2 fluid ounces.

MISTURA CRETÆ.

CHALK MIXTURE.

Take of

Prepared Chalk	¼ ounce	1
Gum Acacia, in powder	¼ ounce	1
Syrup	½ fluid ounce	45 2
Cinnamon Water	7½ fluid ounces	30

Triturate the chalk and gum acacia with the cinnamon water, then add the syrup and mix.

Dose.—1 to 2 fluid ounces.

MISTURA FERRI AROMATICA.

Aromatic Mixture of Iron.

Take of

Pale-Cinchona Bark, in powder	1 ounce	4
Calumba Root, in coarse powder	½ ounce	2
Cloves, bruised	¼ ounce	1
Fine Iron Wire	½ ounce	2
Compound Tincture of Cardamoms	3 fluid ounces	
Tincture of Orange Peel	½ fluid ounce	
Peppermint Water	a sufficiency	

Macerate the cinchona bark, calumba root, cloves, and iron, with twelve fluid ounces of the peppermint water, in a closed vessel ~~for three~~ days, agitating occasionally; then filter the liquid, adding as much peppermint water to the filter as will make the product measure twelve and a half fluid ounces; to this add the tinctures, and preserve the mixture in a well-stopped bottle.

Dose.—1 to 2 fluid ounces.

MISTURA FERRI COMPOSITA.

Compound Mixture of Iron.

Take of

Sulphate of Iron	25 grains
Carbonate of Potash	30 grains
Myrrh } of each	60 grains
Refined Sugar } of each	60 grains
Spirit of Nutmeg	4 fluid drachms
Rose Water	9½ fluid ounces

Reduce the myrrh to powder, add the carbonate of potash and sugar, and triturate them with a small quantity of the rose water so as to form a thin paste; then gradually add more rose water and the spirit of nutmeg, continuing the trituration and further addition of rose water until about eight fluid ounces of a milky liquid is formed, then add the sulphate of iron dissolved in the remainder of the rose water, mix them together thoroughly, and preserve the mixture as much as possible from contact with the air.

Dose.—1 to 2 fluid ounces.

MISTURA GENTIANÆ.

Gentian Mixture.

Synonym.—Infusum Gentianæ Compositum, 1864.

Take of

Gentian Root, sliced		¼ ounce	4
Bitter Orange Peel, cut small Coriander Fruit, bruised	each	30 grains	1
Proof Spirit		2 fluid ounces	16
Distilled Water		8 fluid ounces	64

Macerate the gentian, orange peel, and coriander in the proof spirit for two hours, then add the water, macerate again for two hours, and strain through calico.

Dose.—½ to 1 fluid ounce.

MISTURA GUAIACI.

Emulsio Guaj

Guaiacum Mixture.

Take of

Guaiacum Resin, in powder Refined Sugar	of each	½ ounce	2
Gum Acacia, powdered		¼ ounce	1
Cinnamon Water		1 pint	40

Triturate the guaiacum with the sugar and the gum, adding gradually the cinnamon water.

Dose.—½ to 2 fluid ounces.

MISTURA SCAMMONII.

Scammony Mixture.

15

Take of

Resin of Scammony	4 grains	4
Milk	2 fluid ounces	960

Triturate the resin of scammony with a little of the milk, and continue the trituration, gradually adding the remainder of the milk, until a uniform emulsion is obtained.

Dose.—½ to 2 fluid ounces (for a child).

MISTURA SENNÆ COMPOSITA.

COMPOUND MIXTURE OF SENNA.

Take of

Sulphate of Magnesia . . .	4 ounces
Extract of Liquorice . . .	½ ounce
Tincture of Senna . . .	2½ fluid ounces
Compound Tincture of Cardamoms	10 fluid drachms
Infusion of Senna . . .	a sufficiency

Dissolve the sulphate of magnesia and extract of liquorice in 14 fluid ounces of the infusion of senna, with the aid of a gentle heat, then add the tinctures, and sufficient infusion of senna to make one pint.

Dose.—1 to 1½ fluid ounce.

MISTURA SPIRITUS VINI GALLICI.

MIXTURE OF SPIRIT OF FRENCH WINE.

Take of

Spirit of French Wine Cinnamon Water } of each . .	120 4 fluid ounces
The Yolks of two Eggs	
Refined Sugar	½ ounce 15

Rub the yolks and sugar together, then add the cinnamon water and spirit.

Dose.—1 to 2 fluid ounces.

MORI SUCCUS.

MULBERRY JUICE.

The juice of the ripe fruit of Morus nigra *Linn.* *Steph. and Church. Med. Bot.*, plate 39.

Characters.—Of a dark violet colour, with a faint odour, and an acidulous sweet taste.

Preparation.—Syrupus Mori.

MORPHIÆ ACETAS.

ACETATE OF MORPHIA.

$C_{34}H_{19}NO_6,C_4H_3O_3+HO$ or $C_{17}H_{19}NO_3.C_2H_4O_2$.

Take of

Hydrochlorate of Morphia		2 ounces
Solution of Ammonia	of each	a sufficiency
Acetic Acid		
Distilled Water		

Dissolve the hydrochlorate of morphia in one pint of distilled water, and add solution of ammonia until the morphia is precipitated and the liquid rendered slightly alkaline. Collect the precipitate on a filter, wash it with distilled water, then having transferred it to a porcelain dish, add four ounces of distilled water and a sufficient quantity of acetic acid to neutralise and dissolve it. Evaporate the solution by the heat of a water-bath until it concretes on cooling. Lastly, dry the salt with a gentle heat, and reduce it to powder.

Characters and Tests.—A white powder, soluble in water and in spirit. From its solution potash throws down a precipitate which is dissolved by excess of the alkali. It is affected by nitric acid and perchloride of iron in the same way as hydrochlorate of morphia is. When sulphuric acid is added to the salt, acetous vapours are evolved.

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain.

Preparation.

Liquor Morphiæ Acetatis . . 1 grain in 2 fluid drachms

MORPHIÆ HYDROCHLORAS.

HYDROCHLORATE OF MORPHIA.

Synonym.—MORPHIÆ MURIAS, *Ed.*, *Dub.*

$C_{34}H_{19}NO_6,HCl+6HO$ or $C_{17}H_{19}NO_3.HCl.3H_2O$.

It may be obtained by the following process:—

Take of

Opium, sliced		1 pound
Chloride of Calcium		$\frac{3}{4}$ ounce
Purified Animal Charcoal		$\frac{1}{4}$ ounce
Diluted Hydrochloric Acid		2 fluid ounces, or a sufficiency
Solution of Ammonia Distilled Water	of each	a sufficiency

Macerate the opium for twenty-four hours with two pints of the water, and decant. Macerate the residue for twelve hours with two pints of the water, decant, and repeat the process with the same quantity of the water, subjecting the insoluble residue to strong pressure. Unite the liquors, evaporate in a water-bath to the bulk of one pint, and strain through calico. Pour in now the chloride of calcium previously dissolved in four fluid ounces of distilled water, and evaporate until the solution is so far concentrated that upon cooling it becomes solid. Envelope the mass in a double fold of strong calico, and subject it to powerful pressure, preserving the dark fluid which exudes. Triturate the squeezed cake with about half a pint of boiling distilled water, and, the whole being thrown upon a paper filter, wash the residue well with boiling distilled water. The filtered fluids having been evaporated as before, cooled, and solidified, again subject the mass to pressure; and, if it be still much coloured, repeat this process a third time, the expressed liquids being always preserved. Dissolve the pressed cake in six fluid ounces of boiling distilled water; add the animal charcoal, and digest for twenty minutes; filter, wash the filter and charcoal with boiling distilled water, and to the solution thus obtained add the solution of ammonia in slight excess. Let the pure crystalline morphia which separates as the liquid cools, be collected on a paper filter, and washed with cold distilled water until the washings cease to give a precipitate with solution of nitrate of silver acidulated by nitric acid.

From the dark liquids expressed in the above process an additional product may be obtained by diluting them with distilled water, precipitating with solution of potash added in considerable excess, filtering, and supersaturating the filtrate with hydrochloric acid. This acid liquid digested with a little animal charcoal, and again filtered, gives upon the addition of ammonia a small quantity of pure morphia.

Diffuse the pure morphia, obtained as above, through two fluid ounces of boiling distilled water placed in a porcelain capsule kept hot, and add, constantly stirring, the diluted hydrochloric acid, proceeding with caution, so that the morphia may be entirely dissolved, and a neutral solution obtained. Set aside to cool and crystallise. Drain the crystals, and dry them on filtering paper. By further evaporating the mother liquor, and again cooling, additional crystals are obtained.

Characters and Tests.—In white flexible acicular prisms of a silky lustre, not changed by exposure to the air, and soluble in water and spirit. The aqueous solution gives a white curdy precipitate with nitrate of silver, and a white one with potash, which is redissolved when an excess of the alkali is added. Moistened with strong nitric acid it becomes orange-red, and, with solution of perchloride of iron, greenish-blue. Entirely destructible by heat, leaving no residue. Twenty grains of the salt dissolved in half an ounce of warm water, with ammonia added in the slightest possible excess, give on cooling a crystalline precipitate which, when washed with a little cold water, and dried by exposure to the air, weighs 15·18 grains.

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain.

Preparations.

Liquor Morphiæ Hydrochloratis .	1 grain in 2 fluid drachms
Suppositoria Morphiæ . .	$\frac{1}{2}$ grain in each suppository
Trochisci Morphiæ . . .	$\frac{1}{36}$ grain in each lozenge
,, ,, et Ipecacuanhæ	$\frac{1}{36}$ grain in each lozenge

MOSCHUS.

MUSK.

The inspissated and dried secretion from the preputial follicles of Moschus moschiferus *Linn.*; native of the mountainous regions of Central Asia. Imported from China and India.

Characters.—In irregular reddish-black rather unctuous grains; having a strong peculiar very diffusible odour, and a bitter aromatic taste; contained in a round or slightly oval membranous sac, about two inches in diameter, covered on the outer side with stiff greyish hairs arranged in a concentric manner around its central orifice.

Dose.—5 to 10 grains.

MUCILAGO ACACIÆ.

Mucilage of Gum Acacia.

Take of

Gum Acacia, in small pieces . .	4 ounces
Distilled Water	6 fluid ounces

Put the gum and water into a covered earthen jar, and stir them frequently until the gum is dissolved. If necessary strain the solution through muslin.

Preparations.

Trochisci Acidi Tannici
,, Bismuthi
,, Catechu
,, Ferri Redacti
,, Ipecacuanhæ
Trochisci Morphiæ
,, ,, et Ipecacuanhæ
,, Potassæ Chloratis
,, Sodæ Bicarbonatis

MUCILAGO AMYLI.

Mucilage of Starch.

Take of

Starch	120 grains
Distilled Water	10 fluid ounces

Triturate the starch with the water, gradually added, then boil for a few minutes, constantly stirring.

Preparations.

Enema Aloes
,, Magnesiæ Sulphatis
Enema Opii
,, Terebinthinæ

MUCILAGO TRAGACANTHÆ.

Mucilage of Tragacanth.

Take of

Tragacanth, in powder . . .	60 grains
Distilled Water	10 fluid ounces

To the water contained in a pint bottle add the tragacanth, agitate briskly for a few minutes, and again at short intervals, until the tragacanth is perfectly diffused and finally has formed a mucilage.

MYRISTICA.

Nutmeg.

The kernel of the seed of Myristica officinalis *Linn. Suppl. Steph. and Church. Med. Bot.*, plate 104. Cultivated extensively in the Banda Islands of the Malayan Archipelago.

Characters.—Oval or nearly round, about an inch in length, marked externally with reticulated furrows, internally greyish-red with dark brownish veins. It has a strong peculiar odour, and a bitter aromatic taste.

Preparations.

Oleum Myristicæ	
,, ,, expressum	
Pulvis Catechu compositus .	1 part in 10
,, Cretæ aromaticus . .	1 part in 16, nearly
Spiritus Armoraciæ compositus	½ ounce to 1 gallon
Tinctura Lavandulæ composita .	75 grains to 1 pint

MYRRHA.

Myrrh.

A gum-resinous exudation from the stem of Balsamodendron Myrrha, *Ehrenb. Nees, Plant. Med.*, plate 357. Collected in Arabia Felix and Abyssinia.

Characters.—In irregular-shaped tears or masses varying much in size, somewhat translucent, of a reddish-yellow, or reddish-brown colour, fractured surface irregular and somewhat oily; odour agreeable and aromatic, taste acrid and bitter.

Preparations.

Decoctum Aloes compositum .	3 grains to 1 fluid ounce
Mistura Ferri composita . .	6 grains to 1 fluid ounce
Pilula Aloes et Myrrhæ . .	1 part in 6
,, Assafœtidæ composita .	1 part in 3½
,, Rhei composita . .	1 part in 8 nearly
Tinctura Myrrhæ . . .	54½ grains to 1 fluid ounce

NECTANDRÆ CORTEX.

Bebeeru Bark.

The bark of Nectandra Rodiæi *Schomburgk,* in *Hooker's Journ. of Bot.,* 2nd ser.; the Greenheart tree. Imported from British Guiana.

Characters.—In large flat heavy pieces from one to two feet long, from two to six inches broad, and about a quarter of an inch thick. External colour greyish-brown, internal dark cinnamon-brown. Taste strongly and persistently bitter, with considerable astringency.

Preparation.—Beberiæ Sulphas.

NUX VOMICA.

Nux Vomica.

The seeds of Strychnos Nux vomica *Linn. Steph. and Church. Med. Bot.,* plate 52. Imported from the East Indies.

Characters.—Nearly circular and flat, about an inch in diameter, umbilicated and slightly convex on one side, externally of an ash-grey colour, thickly covered with short satiny hairs, internally translucent, tough and horny, taste intensely bitter, inodorous.

Preparations.

Extractum Nucis Vomicæ	
Strychnia	
Tinctura Nucis Vomicæ . .	44 grains to 1 fluid ounce

OLEUM AMYGDALÆ.

ALMOND OIL.

The oil expressed from bitter and sweet almonds.

Characters.—Pale yellow, nearly inodorous or having a nutty odour, with a bland oleaginous taste.

Preparations.

Unguentum Cetacei
  „ Hydrargyri Oxidi Rubri
  „ Plumbi Subacetatis compositum

Unguentum Simplex, and the preparations containing it.

OLEUM ANETHI.

OIL OF DILL.

The oil distilled in Britain from dill fruit.

Characters.—Colour pale yellow, odour pungent, taste acrid sweetish.

OLEUM ANISI.

OIL OF ANISE.

The oil distilled in Europe from the fruit of Pimpinella Anisum *Linn.*, Anise. *Woodv. Med. Bot.*, plate 180.

And the oil distilled in China from the fruit of Illicium anisatum *Linn.*, Star Anise. *Nees. Plant. Med.*, plate 371.

Characters.—Colourless or pale yellow; with the odour of anise, and a warm sweetish taste. Concretes at 50°.

Preparations.

Essentia Anisi	1 volume in 5
Tinctura Camphoræ composita .	½ fluid drachm in 1 pint
,, Opii Ammoniata . .	1 fluid drachm in 1 pint

OLEUM ANTHEMIDIS.

OIL OF CHAMOMILE.

The oil distilled in Britain from chamomile flowers.

Characters.—Pale blue or greenish-blue, but gradually becoming yellow; with the peculiar odour and aromatic taste of the flowers.

Preparation.—Extractum Anthemidis.

OLEUM CAJUPUTI.

OIL OF CAJUPUT.

The oil distilled from the leaves of Melaleuca minor *DC. Steph. and Church. Med. Bot.* (*M. Cajuputi*), plate 84. Imported from Batavia and Singapore.

Characters.—Very mobile, transparent, of a fine pale bluish-green colour. It has a strong agreeable odour, and a warm aromatic taste, and leaves a sensation of coldness in the mouth.

Preparations.

Linimentum Crotonis . . .	3½ volumes in 8
Spiritus Cajuputi	1 volume in 50

OLEUM CARUI.

Oil of Caraway.

The oil distilled in Britain from caraway fruit.

Characters.—Colourless or pale yellow, odour aromatic, and taste spicy.

Preparations.

Confectio Scammonii .	1 fluid drachm in 10 ounces
Pilula Aloes Barbadensis .	1 fluid drachm in 4 ounces

OLEUM CARYOPHYLLI.

Oil of Cloves.

The oil distilled in Britain from cloves.

Characters.—Colourless when recent, but gradually becoming red-brown, having the odour of cloves and a pungent spicy taste. Sinks in water.

Preparations.

Confectio Scammonii . .	½ fluid drachm in 10 ounces
Pilula Colocynthidis composita	20 minims in 1 ounce, nearly
,, ,, et Hyoscyami	20 minims in 1½ ounce, nearly

OLEUM CINNAMOMI.

Oil of Cinnamon.

The oil distilled from Cinnamon Bark.

Characters.—Yellowish when recent, gradually becoming red, having the odour and taste of cinnamon. Sinks in water.

OLEUM COPAIBÆ.

Oil of Copaiva.

The oil distilled from copaiva.

Characters.—Colourless or pale yellow, with the odour and taste of copaiva.

Dose.—5 to 20 minims.

OLEUM CORIANDRI.

Oil of Coriander.

The oil distilled in Britain from coriander fruit.

Characters.—Yellowish, having the odour of coriander.

Preparation.—Syrupus Sennæ.

OLEUM CROTONIS.

Croton Oil.

The oil expressed from the seeds of Croton Tiglium *Linn.* *Steph. and Church. Med. Bot.*, plate 4.

Characters.—Slightly viscid; colour brownish yellow, taste acrid, odour faintly nauseous.

Dose.—$\frac{1}{3}$ to 1 minim.

Preparation.—Linimentum Crotonis, 1 volume in 8.

OLEUM CUBEBÆ.

Oil of Cubebs.

The oil distilled in Britain from cubebs.

Characters.—Colourless or pale greenish-yellow, having the peculiar odour and taste of cubebs.

Dose.—5 to 20 minims.

OLEUM JUNIPERI.

Oil of Juniper.

The oil distilled in Britain from the unripe fruit of Juniperus communis *Linn.* *Woodv. Med. Bot.*, plate 95.

Characters.—Colourless or pale greenish-yellow, of a sweetish odour, and warm aromatic taste.

Preparation.—Spiritus Juniperi, 1 volume in 50.

OLEUM LAVANDULÆ.

Oil of Lavender.

The oil distilled in Britain from the flowers of Lavandula vera *DC.* *Woodv. Med. Bot.* (*L. Spica*), plate 55.

Characters.—Colourless or pale yellow, with the odour of lavender, and a hot bitter aromatic taste.

Preparations.

Linimentum Camphoræ compositum .	60 minims in 1 pint
Spiritus Lavandulæ	1 volume in 50
Tinctura Lavandulæ composita . .	45 minims in 1 pint

OLEUM LIMONIS.

Oil of Lemon.

The oil expressed or distilled from fresh lemon peel; imported chiefly from Sicily.

Characters.—Colour pale yellow, odour agreeable, taste warm and bitter.

Preparations.

Linimentum Potassii Iodidi cum Sapone	1 fl. dr. to 14 oz.
Spiritus Ammoniæ aromaticus ..	6 fluid drachms in 7 pints

OLEUM LINI.

LINSEED OIL.

The oil expressed without heat from linseed.

Characters.—Viscid, yellow, with a faint odour, and oleaginous taste.

OLEUM MENTHÆ PIPERITÆ.

OIL OF PEPPERMINT.

The oil distilled in Britain from fresh flowering peppermint, Mentha piperita *Linn. Woodv. Med. Bot.*, plate 169.

Characters.—Colourless or pale yellow, with the odour of peppermint; taste warm, aromatic, succeeded by a sensation of coldness in the mouth.

Preparations.

Aqua Menthæ Piperitæ .	1½ fluid drachm to 1 gallon
Essentia Menthæ Piperitæ .	1 volume in 5
Pilula Rhei compositus .	1 minim in 1 drachm, nearly
Spiritus Menthæ Piperitæ .	1 volume in 50

OLEUM MENTHÆ VIRIDIS.

OIL OF SPEARMINT.

The oil distilled in Britain from fresh flowering spearmint, Mentha viridis *Linn. Woodv. Med. Bot.*, plate 170.

Characters.—Colourless or pale yellow, with the odour and taste of spearmint.

Preparation.

Aqua Menthæ Viridis . .	1½ fluid drachm to 1 gallon

OLEUM MORRHUÆ.

Cod-Liver Oil.

The oil extracted from the fresh liver of the cod, Gadus Morrhua *Linn.*, by the application of a heat not exceeding 180°.

Characters and Test.—Pale yellow, with a slight fishy odour, and bland fishy taste. A drop of sulphuric acid added to a few drops of the oil on a porcelain slab developes a violet colour which soon passes to a yellowish or brownish-red.

Dose.—1 to 8 fluid drachms.

OLEUM MYRISTICÆ.

Volatile Oil of Nutmeg.

The oil distilled in Britain from nutmeg.

Characters.—Colourless or straw-yellow, having the odour and taste of nutmegs.

Preparations.

Pilula Aloes Socotrinæ . .	1 fluid drachm to 4 ounces
Spiritus Ammoniæ Aromaticus	4 fluid drachms to 7 pints
,, Myristicæ . . .	1 volume in 50

OLEUM MYRISTICÆ EXPRESSUM.

Expressed Oil of Nutmeg.

Synonym.—Myristicæ Adeps, 1864.

A concrete oil obtained by means of expression and heat from nutmegs.

Characters.—Of an orange colour, firm consistence, and fragrant odour like that of nutmeg.

Preparations.

Emplastrum Calefaciens
Emplastrum Picis

OLEUM OLIVÆ.

OLIVE OIL.

The oil expressed in the South of Europe from the ripe fruit of Olea europæa *Linn.; Steph. and Church. Med. Bot.*, plate 15.

Characters.—Pale yellow, with scarcely any odour, and a bland oleaginous taste; congeals partially at about 36°.

Preparations.

Charta Epispastica
Cataplasma Lini
Emplastrum Ammoniaci cum Hydrargyro
,, Cerati Saponis
,, Hydrargyri
,, Picis
,, Plumbi
Enema Magnesiæ Sulphatis

Linimentum Ammoniæ
,, Calcis
,, Camphoræ
Unguentum Cantharidis
,, Hydrargyri compositum
,, Hydrargyri Nitratis
,, Veratriæ

OLEUM PIMENTÆ.

OIL OF PIMENTO.

The oil distilled in Britain from pimento.

Characters.—Colourless or slightly reddish when recent, but becoming brown by age, having the odour and taste of pimento. Sinks in water.

OLEUM RICINI.

CASTOR OIL.

The oil expressed from the seeds of Ricinus communis *Linn.; Bot. Mag.*, plate 2209. Imported chiefly from Calcutta.

Characters.—Viscid, colourless, or pale straw-yellow, having a slightly nauseous odour, and a somewhat acrid taste. Entirely soluble in one volume of alcohol, and in two volumes of rectified spirit.

Dose.—1 to 8 fluid drachms.

Preparations.

Collodium Flexile	1 fluid drachm to 6 fluid ounces
Linimentum Sinapis compositum	5 fluid drachms to 5 fluid ounces
Pilula Hydrargyri Subchloridi composita	

OLEUM ROSMARINI.

Oil of Rosemary.

The oil distilled from the flowering tops of Rosmarinus officinalis *Linn.*; *Steph. and Church. Med. Bot.*, plate 24.

Characters.—Colourless, with the odour of rosemary, and a warm aromatic taste.

Preparations.

Linimentum Saponis	1 fluid drachm in 7 fluid ounces, nearly
Spiritus Rosmarini	1 volume in 50
Tinctura Lavandulæ composita	5 minims in 1 pint

OLEUM RUTÆ.

Oil of Rue.

The oil distilled from the fresh herb of Ruta graveolens *Linn.*; *Woodv. Med. Bot.*, plate 37.

Characters.—Colour pale yellow, odour disagreeable, taste bitter, acrid.

OLEUM SABINÆ.

Oil of Savin.

The oil distilled in Britain from fresh savin, Juniperus Sabina, *Linn.*

Characters.—Colourless or pale yellow.

Dose.—1 to 5 minims.

OLEUM SINAPIS.

Oil of Mustard.

The oil distilled with water from the seeds of Black Mustard, Sinapis nigra *Linn.*, after the expression of the fixed oil.

Characters.—Colourless or pale yellow. Specific gravity 1·015. Dissolves readily in alcohol and ether, and to a slight extent in water. Has an intensely penetrating odour and a very acrid, burning taste. Applied to the skin it produces almost instant vesication.

Preparation.

Linimentum Sinapis compositum . 1 volume in 41

OLEUM TEREBINTHINÆ.

Oil of Turpentine.

The oil distilled from the oleo-resin (turpentine) obtained from Pinus palustris *Miller's Dict.*, Pinus Tæda *Linn.*, and sometimes Pinus Pinaster *Aiton.*; *Lambert,* *Pinus*, plates 4, 5, 16, 17, 20.

Characters.—Limpid, colourless, with a strong peculiar odour; and pungent and bitter taste.

Dose.—10 minims to 4 fluid drachms.

Preparations.

Confectio Terebinthinæ . .	1 part in 4, nearly
Enema Terebinthinæ . . .	1 volume in 16
Linimentum Terebinthinæ . .	16 parts in 19, nearly
„ Terebinthinæ aceticum	1 volume in 3
Unguentum Terebinthinæ . .	1 part in 2 nearly

OLEUM THEOBROMÆ.

Oil of Theobroma.

Synonym.—Cacao Butter.

A concrete oil obtained by expression and heat from the ground seeds of Theobroma Cacao *Linn.*

Characters.—Of the consistency of tallow; colour yellowish; odour resembling that of chocolate; taste bland and agreeable; fracture clean, presenting no appearance of foreign matter. Does not become rancid from exposure to the air. Melts at a temperature of 122°.

Preparations.

Suppositoria Acidi Tannici . . .	1 part in 2
„ Hydrargyri . . .	1 part in 2
„ Morphiæ . . .	1 part in 2
„ Plumbi composita . .	4 parts in 9

OPIUM.

Opium.

The juice, inspissated by spontaneous evaporation, obtained by incision from the unripe capsules of the poppy, Papaver somniferum, *Linn.*, grown in Asia Minor.

Characters.—Irregular lumps, weighing from four ounces to two pounds; enveloped in the remains of poppy leaves, and generally covered with the chaffy fruits of a species of rumex; when fresh, plastic, tearing with an irregular slightly moist chestnut-brown surface, shining when rubbed smooth with the finger, having a peculiar odour and bitter taste.

Test.—Take of opium one hundred grains, slaked lime one hundred grains, distilled water four ounces. Break down the opium, and steep it in an ounce of the water for twenty-four hours, stirring the mixture frequently. Transfer it to a displacement apparatus, and pour on the remainder of the water in successive portions, so as to exhaust the opium by percolation. To the infusion thus obtained, placed in a flask, add the lime, boil for ten minutes, place the undissolved matter on a filter, and wash it with an ounce of boiling water. Acidulate the filtered fluid slightly with diluted hydrochloric acid, evaporate it to the bulk of half an ounce, and let it cool. Neutralise cautiously with solution of ammonia, carefully avoiding an excess; remove by filtration the brown matter which separates, wash it with an ounce of hot water, mix the washings with the filtrate, concentrate the whole to the bulk of half an ounce, and add now solution of ammonia in slight excess. After twenty-four hours collect the precipitated morphia on a weighed filter, wash it with cold water, and dry it at 212°, It ought to weigh at least from six to eight grains.

Dose.—½ grain to 2 grains.

Preparations.

Confectio Opii	1 part in 40, nearly
Emplastrum Opii	1 part in 10
Enema Opii	½ fl. drm. Tincture to 2 fl. oz.
Extractum Opii	about 1 part from 2
,, ,, liquidum	22 grs. extract in 1 fl. oz., nearly
Linimentum Opii	1 volume Tincture in 2 volumes
Morphiæ Acetas	about 1 part from 8 or 10
,, Acetatis Liquor	4 grs. Acetate in 1 fl. oz.
,, Hydrochloras	about 1 part from 8 or 10
,, ,, Liquor	4 grs. Hydrochlorate in 1 fl. oz.
Pilula Ipecacuanhæ cum Scilla	1 part in 16½ nearly
,, Plumbi cum Opio	1 part in 8
,, Saponis composita	1 part in 6 nearly
Pulvis Cretæ aromaticus cum Opio	1 part in 40
,, Ipecacuanhæ compositus	1 part in 10

Pulvis Kino compositus	1 part in 20
„ Opii compositus	1 part in 10
Suppositoria Plumbi composita	1 grain in each suppository
Tinctura Camphoræ composita	2 grains to 1 fluid ounce
„ Opii	33 grains to 1 fluid ounce, nearly
„ „ ammoniata	5 grains to 1 fluid ounce
Trochisci Opii	$\frac{1}{10}$ grain in each
Unguentum Gallæ cum Opio	32 grains to 1 ounce
Vinum Opii	22 grains extract in 1 fluid ounce, nearly

OS USTUM.

Bone Ash.

The residue of bones which have been burned to a white ash in contact with air. Consists principally of phosphate of lime mixed with about 10 per cent. of carbonate of lime, and a little fluoride of calcium and phosphate of magnesia.

Preparations in which Bone Ash is used.

Calcis Phosphas	Sodæ Phosphas

OVI VITELLUS.

Yolk of Egg.

The yolk of the egg of Gallus Banckiva: *var.* domesticus, *Temminck.*

Preparation.—Mistura Spiritus Vini Gallici.

OXYMEL.

Oxymel.

Take of

Clarified Honey	40 ounces
Acetic Acid	5 fluid ounces
Distilled Water	5 fluid ounces

Liquefy the honey by heat, and mix with it the acetic acid and water.

Dose.—1 to 2 fluid drachms.

OXYMEL SCILLÆ.

Oxymel of Squill.

Take of

Vinegar of Squill	1 pint
Clarified Honey	2 pounds

Mix and evaporate by a water-bath until the product when cold shall have a specific gravity 1·32.

Dose.—½ to 1 fluid drachm.

PAPAVERIS CAPSULÆ.

Poppy Capsules.

The nearly ripe dried capsules of the white poppy, Papaver somniferum, *Linn.*, *Woodv. Med. Bot.*, plate 185. Cultivated in Britain.

Characters.—Globular, two or three inches in diameter, crowned by a sessile stellate stigma.

Preparations.

Decoctum Papaveris . .	2 ounces to 1 pint
Extractum Papaveris . .	1 part from 3, nearly
Syrupus Papaveris . .	1 part to 3, nearly

PAREIRÆ RADIX.

Pareira Root.

The dried root of Cissampelos Pareira *Linn. Woodv. Med. Bot.*, plate 82. Brazil.

Characters.—Cylindrical oval or compressed pieces, entire or split longitudinally, half an inch to four inches in diameter, and four inches to four feet in length. Bark greyish-brown, longitudinally wrinkled, crossed transversely by annular elevations; interior woody, yellowish-grey, porous, with well-marked often incomplete concentric rings and medullary rays. Taste at first sweetish and aromatic, afterwards intensely bitter.

Preparations.

Decoctum Pareiræ . . .	1½ ounce to pint
Extractum Pareiræ	
,, ,, liquidum .	1 ounce to 1 fluid ounce

PHOSPHORUS.

PHOSPHORUS.

A non-metallic element obtained from bones.

Characters and Tests. A semi-transparent, colourless, wax-like solid, which emits white vapours when exposed to the air. Specific gravity 1·77. It is soft and flexible at common temperatures, melts at 110°, ignites in the air at a temperature a little above its melting point, burning with a luminous flame and producing dense white fumes. Insoluble in water, but soluble in ether and in boiling oil of turpentine.

Preparation.—Acidum Phosphoricum Dilutum.

PHYSOSTIGMATIS FABA.

CALABAR BEAN.

The seed of Physostigma venenosum, *Balfour, Trans. Royal Soc. Edinb.*, vol. xxii. page 305. Western Africa.

Characters.—About the size of a very large horse-bean, with a very firm, hard, brittle, shining integument of a brownish-red, pale-chocolate, or ash-grey colour. Irregularly kidney-shaped, with two flat sides, and a furrow running longitudinally along its convex margin, ending in an aperture near one end of the seed. Within the shell is a kernel consisting of two cotyledons, weighing on an average about 46 grains, hard, white, and pulverisable, of a taste like that of the ordinary edible leguminous seeds, without bitterness, acrimony, or aromatic flavour. It yields its virtues to alcohol and imperfectly to water.

Dose, in powder.—1 to 4 grains.

Preparation.—Extractum Physostigmatis.

PILULA ALOES BARBADENSIS.

Pill of Barbadoes Aloes.

Take of

Barbadoes Aloes, in powder . .	2 ounces
Hard Soap, in powder . . .	1 ounce
Oil of Caraway	1 fluid drachm
Confection of Roses . . .	1 ounce

Beat all together, until thoroughly mixed.

Dose.—5 to 10 grains.

PILULA ALOES ET ASSAFŒTIDÆ.

Pill of Aloes and Assafœtida.

Take of

Socotrine Aloes, in powder	of each . 1 ounce
Assafœtida . . .	
Hard Soap, in powder .	
Confection of Roses . .	

Beat all together, until thoroughly mixed.

Dose.—5 to 10 grains.

PILULA ALOES ET FERRI.

Pill of Aloes and Iron.

Take of

Sulphate of Iron	1½ ounce
Barbadoes Aloes, in powder	2 ounces
Compound Powder of Cinnamon	3 ounces
Confection of Roses	4 ounces

Reduce the sulphate of iron to powder, rub it with the aloes and compound powder of cinnamon, and adding the confection make the whole into a uniform mass.

Dose.—5 to 10 grains.

PILULA ALOES ET MYRRHÆ.

Pill of Aloes and Myrrh.

Take of

Socotrine Aloes	2 ounces
Myrrh	1 ounce
Saffron, dried	½ ounce
Confection of Roses	2½ ounces

Triturate the aloes, myrrh, and saffron together, and sift; then add the confection of roses, and beat them together into a uniform mass.

Dose.—5 to 10 grains.

PILULA ALOES SOCOTRINÆ.

Pill of Socotrine Aloes.

Take of

Socotrine Aloes, in powder	2 ounces
Hard Soap, in powder	1 ounce
Volatile Oil of Nutmeg	1 fluid drachm
Confection of Roses	1 ounce

Beat all together, until thoroughly mixed.

Dose.—5 to 10 grains.

PILULA ASSAFŒTIDÆ COMPOSITA.

Compound Pill of Assafœtida.

Synonym.—Pilula Galbani Composita, *Lond.*

Take of

Assafœtida	of each	2 ounces
Galbanum		
Myrrh		
Treacle, by weight		1 ounce

Heat all together by means of a water-bath, and stir the mass until it assumes a uniform consistence.

Dose.—5 to 10 grains.

PILULA CAMBOGIÆ COMPOSITA.

Compound Pill of Gamboge.

Take of

Gamboge, in powder	of each	1 ounce
Barbadoes Aloes, in powder		
Compound Powder of Cinnamon		
Hard Soap, in powder		2 ounces
Syrup		a sufficiency

Mix the powders together, add the syrup, and beat the whole into a uniform mass.

Dose.—5 to 10 grains.

PILULA COLOCYNTHIDIS COMPOSITA.

Compound Pill of Colocynth.

Take of

Colocynth Pulp, in powder		1 ounce
Barbadoes Aloes, in powder	of each	2 ounces
Scammony, in powder		
Sulphate of Potash, in powder		$\frac{1}{4}$ ounce
Oil of Cloves		2 fluid drachms
Distilled Water		a sufficiency

Mix the powders, add the oil of cloves, and beat into a mass with the aid of the water.

Dose.—5 to 10 grains.

PILULA COLOCYNTHIDIS ET HYOSCYAMI.

PILL OF COLOCYNTH AND HYOSCYAMUS.

Take of

Compound Pill of Colocynth	2 ounces
Extract of Hyoscyamus	1 ounce

Beat them into a uniform mass.

Dose.—5 to 10 grains.

PILULA CONII COMPOSITA.

COMPOUND PILL OF HEMLOCK.

Take of

Extract of Hemlock	2½ ounces
Ipecacuanha, in powder	½ ounce
Treacle	a sufficiency

Mix the extract of hemlock and ipecacuanha, and add sufficient treacle to form a pill-mass.

Dose.—5 to 10 grains.

PILULA FERRI CARBONATIS.

PILL OF CARBONATE OF IRON.

Take of

Saccharated Carbonate of Iron	1 ounce
Confection of Roses	¼ ounce

Beat them into a uniform mass.

Dose.—5 to 20 grains.

PILULA FERRI IODIDI.

PILL OF IODIDE OF IRON.

Take of

Fine Iron Wire	40 grains
Iodine	80 grains
Refined Sugar, in powder	70 grains
Liquorice Root, in powder	140 grains
Distilled Water	50 minims

Agitate the iron with the iodine and the water in a strong stoppered ounce phial, until the froth becomes white. Pour the fluid upon the sugar in a mortar, triturate briskly, and gradually add the liquorice.

Dose.—3 to 8 grains.

PILULA HYDRARGYRI.

Mercurial Pill.

Take of

Mercury	2 ounces
Confection of Roses	3 ounces
Liquorice Root, in fine powder	1 ounce

Rub the mercury with the confection of roses, until metallic globules are no longer visible, then add the liquorice, and mix the whole well together.

Dose.—3 to 8 grains.

PILULA HYDRARGYRI SUBCHLORIDI COMPOSITA.

Compound Pill of Subchloride of Mercury.

Synonym.—Pilula Calomelanos Composita, 1864.—*Edinb. and Dublin.*

Take of

Subchloride of Mercury Sulphurated Antimony } of each	1 ounce
Guaiacum Resin, in powder	2 ounces
Castor Oil	1 fluid ounce, or a sufficiency

Triturate the subchloride of mercury with the antimony, then add the guaiacum resin and castor oil, and beat the whole into a uniform mass.

Dose.—5 to 10 grains.

PILULA IPECACUANHÆ CUM SCILLA.

PILL OF IPECACUANHA WITH SQUILL.

Take of

Compound Powder of Ipecacuanha		3 ounces
Squill, in powder	of each	1 ounce
Ammoniacum, in powder		
Treacle		a sufficiency

Mix the powders and beat into a mass with the treacle.

Dose.—5 to 10 grains.

PILULA PLUMBI CUM OPIO.

PILL OF LEAD AND OPIUM.

Take of

Acetate of Lead, in fine powder	36 grains
Opium, in powder	6 grains
Confection of Roses	6 grains

Beat them into a uniform mass.

Dose.—3 to 5 grains.

PILULA QUINIÆ.

PILL OF QUINIA.

Take of

Sulphate of Quinia	60 grains
Confection of Hips	20 grains

Mix them to a uniform mass.

Dose.— 2 to 10 grains.

PILULA RHEI COMPOSITA.

COMPOUND RHUBARB PILL.

Take of

Rhubarb Root, in powder		3 ounces
Socotrine Aloes, in powder		2¼ ounces
Myrrh, in powder	of each	1½ ounce
Hard Soap, in powder		
Oil of Peppermint		1½ fluid drachm
Treacle, by weight		4 ounces

Mix the powders with the oil, then add the treacle and beat the whole into a uniform mass.

Dose.—5 to 10 grains.

PILULA SAPONIS COMPOSITA.

COMPOUND PILL OF SOAP.

Synonym.—PILULA OPII,—1864.

Take of

Opium, in powder	½ ounce
Hard Soap, in powder	2 ounces
Distilled Water	a sufficiency

Mix the opium and soap and beat into a mass with the water.

Dose.—3 to 5 grains.

PILULA SCILLÆ COMPOSITA.

COMPOUND SQUILL PILL.

Take of

Squill, in powder		1¼ ounce
Ginger, in powder	of each	1 ounce
Ammoniacum, in powder		
Hard Soap, in powder		
Treacle, by weight		2 ounces, or a sufficiency

Mix the powders, add the treacle, and beat into a uniform mass.

Dose.—5 to 10 grains.

PIMENTA.

Pimento.

The dried unripe berries of the Allspice tree, Eugenia Pimenta *DC.; Woodv. Med. Bot.* (*Myrtus Pimenta*), plate 26. West Indies.

Characters.—Of the size of a small pea, brown, rough, crowned with the teeth of the calyx, yellowish within, and containing two dark brown seeds. Odour and taste aromatic, hot, and peculiar.

Preparations.

Aqua Pimentæ . . .	14 ounces to 1 gallon
Oleum Pimentæ	
Syrupus Rhamni	

PIPER NIGRUM.

Black Pepper.

The dried unripe berries of Piper nigrum *Linn. Woodv. Med. Bot.*, plate 187. Imported from the East Indies.

Characters.—Small, roundish, wrinkled; tegument brownish-black, containing a greyish-yellow globular seed. Odour aromatic. Taste pungent, and bitterish.

Preparations.

Confectio Opii	1 part in 31
„ Piperis	1 part in 10
Pulvis Opii compositus . . .	1 part in 7½

PIX BURGUNDICA.

Burgundy Pitch.

A resinous exudation from the stem of the Spruce Fir, Abies excelsa *DC. Woodv. Med. Bot.* (*Pinus Abies*), plate 208. Melted and strained; imported from Switzerland.

Characters.—Hard and brittle, yet gradually taking the form of the vessel in which it is kept; opaque, varying in colour but generally dull reddish-brown; of a peculiar somewhat empyreumatic perfumed odour, and aromatic taste, without bitterness; free from vesicles; gives off no water when heated.

Preparations.

Emplastrum Ferri . . .	2 parts in 11
,, Picis . . .	1 part in 2, nearly

PIX LIQUIDA.

TAR.

A bituminous liquid, obtained from the wood of Pinus sylvestris *Linn.* and other pines, by destructive distillation.

Characters.—Thick, viscid, brownish-black, of a well-known peculiar aromatic odour. Water agitated with it acquires a pale brown colour, sharp empyreumatic taste, and acid reaction.

Preparation.

Unguentum Picis Liquidæ.

PLUMBI ACETAS.

ACETATE OF LEAD.

$PbO,C_4H_3O_3 + 3HO$ or $Pb(C_2H_3O_2)_2.3H_2O$.

It may be obtained by the following process:—

Take of

Oxide of Lead, in fine powder	24 ounces
Acetic Acid	2 pints, or a sufficiency
Distilled Water . . .	1 pint

Mix the acetic acid and the water, add the oxide of lead, and dissolve with the aid of a gentle heat. Filter, evaporate till a pellicle forms, and set aside to crystallise, first adding a little acetic acid should the fluid not have a distinctly acid reaction. Drain and dry the crystals on filtering paper, without heat.

Characters and Tests.—In white crystalline masses, slightly efflorescent, having an acetous odour, and a sweet astringent taste. Its solution in water slightly reddens litmus, gives a yellow precipitate with iodide of potassium, and is precipitated white by sulphuric acid, acetic acid being set free. Its solution in distilled water is clear, or has only a slight milkiness, which disappears on the addition of acetic acid. Thirty-eight grains dissolved in water require for complete precipitation 200 grain-measures of the volumetric solution of oxalic acid.

Dose.—1 to 4 grains.

Preparations in which Acetate of Lead is used.

Liquor Plumbi Subacetatis . .	5 ounces to 1 pint
Pilula Plumbi cum Opio . . .	36 parts in 48
Suppositoria Plumbi composita .	6 parts in 30
Unguentum Plumbi Acetatis . .	1 part in 38

PLUMBI CARBONAS.

CARBONATE OF LEAD.

Characters and Tests.—A soft heavy white powder, blackened by sulphuretted hydrogen, insoluble in water, soluble with effervescence in diluted acetic acid without leaving any residue, and forming a solution which is precipitated white by sulphuric acid, and yellow by iodide of potassium. The acetic solution when treated with excess of sulphuretted hydrogen, boiled and filtered, gives no precipitate with oxalate of ammonia.

Preparation.

Unguentum Plumbi Carbonatis . .	1 part in 8

PLUMBI IODIDUM.

Iodide of Lead.

PbI or $\mathbf{PbI_2}$.

Take of

Nitrate of Lead Iodide of Potassium	of each . . . 4 ounces
Distilled Water	a sufficiency

Dissolve the nitrate of lead, by the aid of heat, in a pint and a half, and the iodide of potassium in half a pint of the water, and mix the solutions. Collect the precipitate on a filter, wash it with distilled water, and dry it at a gentle heat.

Preparations.

Emplastrum Plumbi Iodidi . . .	1 part in 9
Unguentum Plumbi Iodidi . . .	1 part in 8

PLUMBI NITRAS.

Nitrate of Lead.

PbO,NO_5 or $\mathbf{Pb(NO_3)_2}$.

Characters and Tests.—In colourless octahedral crystals which are nearly opaque, permanent in the air, of a sweetish astringent taste, soluble in water and in alcohol. The aqueous solution is precipitated black by sulphuretted hydrogen, white by diluted sulphuric acid, and yellow by iodide of potassium. Added to sulphate of indigo it discharges the colour.

Preparation in which Nitrate of Lead is used.

Plumbi Iodidum.

PLUMBI OXIDUM.

Oxide of Lead.

Synonym.—LITHARGYRUM, 1864.

PbO or $\mathbf{PbO}$.

Characters and Tests.—In heavy scales of a pale brick-red colour, completely soluble without effervescence in diluted nitric and acetic acids, either solution, when neutral, giving a copious yellow precipitate with iodide of potassium. Its solution in diluted nitric acid when supersaturated with ammonia and then cleared by filtration, does not exhibit a blue colour.

Preparations in which Oxide of Lead is used.

Emplastrum Cerati Saponis
,, Plumbi
Liquor Plumbi Subacetatis
Plumbi Acetas

Preparations containing Lead.

Emplastrum Belladonnæ
,, Calefaciens
,, Cerati Saponis
,, Ferri
,, Galbani
,, Hydrargyri
,, Opii
,, Plumbi
,, Resinæ
,, Saponis
Liquor Plumbi Subacetatis
,, Plumbi Subacetatis dilutus
Plumbi Acetas
,, Carbonas
,, Iodidum
,, Nitras
Suppositoria Plumbi composita
Unguentum Plumbi Acetatis
,, Plumbi Carbonatis
,, Plumbi Iodidi
,, Plumbi Subacetatis compositum

PODOPHYLLI RADIX.

PODOPHYLLUM ROOT.

The dried rhizome of Podophyllum peltatum *Linn. Bot. Mag.* plate 1819. Imported from North America.

Characters.—In pieces of variable length, about two lines thick, mostly wrinkled longitudinally, dark reddish-brown externally, whitish within, breaking with a short fracture; accompanied with pale brown rootlets. Powder yellowish-grey, sweetish in odour, bitterish, subacrid and nauseous in taste.

Preparation.—Resina Podophylli.

PODOPHYLLI RESINA.

Resin of Podophyllum.

Take of

Podophyllum Root, in coarse powder	1 pound
Rectified Spirit	3 pints, or a sufficiency
Distilled Water	a sufficiency
Hydrochloric Acid	a sufficiency

Exhaust the podophyllum with the spirit by percolation; place the tincture in a still, and draw off the greater part of the spirit. Acidulate the water with one twenty-fourth of its bulk of hydrochloric acid, and slowly pour the liquid which remains after the distillation of the tincture into three times its volume of the acidulated water, constantly stirring. Allow the mixture to stand for twenty-four hours to deposit the resin. Wash the resin on a filter with distilled water, and dry it in a stove.

Characters.—A pale greenish-brown amorphous powder, soluble in rectified spirit and in ammonia; precipitated from the former solution by water, from the latter by acids. Almost entirely soluble in pure ether.

Dose.—$\frac{1}{4}$ to 1 grain.

POTASSA CAUSTICA.

Caustic Potash.

Synonyms.—Potassæ Hydras, *Lond.*
Potassa, *Ed.*

Hydrate of potash, KO,HO or KHO, containing some impurities.

Take of

Solution of Potash	2 pints

Boil down the solution of potash rapidly in a silver or clean iron vessel, until there remains a fluid of oily consistence, a drop of which when removed on a warm glass rod solidifies on cooling. Pour this into proper moulds, and when it has solidified, and while it is still warm, put it into stoppered bottles.

Characters and Tests.—In hard white pencils, very deliquescent, powerfully alkaline and corrosive. A watery solution acidulated by nitric acid gives a yellow precipitate with perchloride of platinum, and only scanty white precipitates with nitrate of silver and chloride of barium. Fifty-six grains dissolved in water leave only a trace of sediment, and require for neutralisation at least 900 grain-measures of the volumetric solution of oxalic acid.

Preparation containing Caustic Potash.

Liquor Potassæ . . 27 grains in 1 fluid ounce

Preparation in which Caustic Potash is used.

Potassæ Permanganas

Preparations containing Potassium and its compounds.

Antimonium Tartaratum
Confectio Sulphuris
Decoctum Aloes compositum
Enema Aloes
Ferrum Tartaratum
Linimentum Iodi
,, Potassii Iodidi cum Sapone
,, Terebinthinæ
Liquor Arsenicalis
,, Iodi
,, Potassæ
,, ,, effervescens
,, ,, Permanganatis
Mistura Ferri composita
Pilula Colocynthidis composita
,, Colocynthidis et Hyoscyami
Pulvis Ipecacuanhæ compositus
,, Jalapæ compositus
Potassa Caustica
,, Sulphurata

Potassæ Acetas
,, Bicarbonas
,, Bichromas
,, Carbonas
,, Chloras
,, Citras
,, Nitras
,, Permanganas
,, Prussias flava
,, Sulphas
,, Tartras
,, Tartras Acida
Potassii Bromidum
,, Iodidum
Sapo Mollis
Soda Tartarata
Trochisci Potassæ Chloratis
Unguentum Antimonii Tartarati
,, Iodi
,, Potassæ Sulphuratæ
,, Potassii Iodidi
Vinum Antimoniale

POTASSA SULPHURATA

SULPHURATED POTASH.

Synonyms.—HEPAR SULPHURIS, *Dubl.*
POTASSII SULPHURETUM, *Lond.*, *Edin.*

Take of

Carbonate of Potash, in powder . .	10 ounces
Sublimed Sulphur	5 ounces

Mix the carbonate of potash and the sulphur in a warm mortar, and, having introduced them into a Cornish or Hessian crucible, let this be heated, first gradually until effervescence has ceased, and finally to dull redness, so as to produce perfect fusion. Let the liquid contents of the crucible be then poured out on a clean flagstone, and covered quickly with an inverted porcelain basin so as to exclude the air as completely as possible while solidification is taking place. The solid product thus obtained should, when cold, be broken into fragments, and immediately enclosed in a green-glass bottle, furnished with an air-tight stopper.

Characters and Tests.—Solid greenish fragments, liver-brown when recently broken, alkaline, and acrid to the taste, readily forming with water a yellow solution, which has the odour of sulphuretted hydrogen, and evolves it freely when excess of hydrochloric acid is dropped into it, sulphur being at the same time deposited. The acid fluid when boiled and filtered is precipitated yellow by perchloride of platinum, and white by chloride of barium. About three-fourths of its weight are dissolved by rectified spirit.

Preparation.—Unguentum Potassæ Sulphuratæ.

POTASSÆ ACETAS.

ACETATE OF POTASH.

$KO,C_4H_3O_3$ or $KC_2H_3O_2$.

Take of

Carbonate of Potash . .	20 ounces
Acetic Acid . . .	2 pints, or a sufficiency

To the acetic acid, placed in a thin porcelain basin, add gradually the carbonate of potash, filter, acidulate, if necessary, with a few additional drops of the acid, and, having evaporated to dryness, raise the heat cautiously so as to liquefy the product. Allow the basin to cool, and when the salt has solidified, and while it is still warm, break it in fragments and put it into stoppered bottles.

Characters and Tests.—White foliaceous satiny masses, very deliquescent, with a watery solution of which, tartaric acid causes a crystalline precipitate, sulphuric acid the disengagement of acetic acid, and a dilute solution of perchloride of iron strikes a deep red colour. Neutral to test paper, entirely soluble in rectified spirit. Its solution is unaffected by sulphide of ammonium.

Dose.—10 to 60 grains.

Preparation in which Acetate of Potash is used.

Tinctura Ferri Acetatis

POTASSÆ BICARBONAS.

BICARBONATE OF POTASH.

$KO,HO,2CO_2$ or $\mathbf{KHCO_3}$.

May be obtained by the following process :—

Take of

Carbonate of Potash . .	1 pound
Distilled Water . . .	2 pints
Hydrochloric Acid . . .	1½ pint
Water	3 pints
White Marble, in fragments .	1 pound, or a sufficiency

Dissolve the carbonate of potash in the distilled water, and filter the solution into a three-pint bottle, capable of being tightly closed by a cork traversed by a glass tube sufficiently long to pass to the bottom of the fluid. Introduce the marble into another bottle, in the bottom of which a few small holes have been drilled, and the mouth of which is closed by a cork also traversed by a glass tube, and place the bottle in a jar of the same height as itself, but of rather larger diameter. Connect the two glass tubes air-tight by a caoutchouc tube. The cork of the bottle containing the carbonate of potash having been placed loosely, and that of the bottle containing the marble tightly, in its mouth, pour into the jar surrounding the latter bottle the hydrochloric acid previously diluted with the water. When carbonic acid gas has passed through the potash solution for two minutes so as to expel the whole of the air of the apparatus, fix the cork tightly in the neck of the bottle, and let the process go on for a week. At the end of this time numerous crystals of bicarbonate of potash will have formed, which are to be removed, shaken with twice their bulk of cold distilled water, and, after decantation of the water, drained, and dried on filtering paper by exposure to the air. The mother liquor filtered if necessary, and concentrated to one half, at a temperature not exceeding 110°, will yield more crystals.

The tube immersed in the solution of carbonate of potash, which should have as large a diameter as possible, may require the occasional removal of the crystals formed within it, in order that the process may not be interrupted.

Characters and Tests.—Colourless right rhombic prisms, not deliquescent, of a saline feebly alkaline taste, not corrosive. Diluted hydrochloric acid causes strong effervescence, forming a solution with which perchloride of platinum gives a yellow precipitate. Fifty grains exposed to a low red heat, leave thirty-four and a half grains of a white residue, which require for exact saturation 500 grain-measures of the volumetric solution of oxalic acid.

$\left.\begin{array}{l}\text{20 grains Bicarbonate}\\\text{of Potash}\end{array}\right\}$ neutralise $\left\{\begin{array}{l}\text{14 grains Citric Acid, or}\\\text{15 grains Tartaric Acid}\end{array}\right.$

Dose.—10 to 40 grains.

Preparation containing Bicarbonate of Potash.

Liquor Potassæ effervescens . 30 grains in 1 pint

POTASSÆ BICHROMAS.

Bichromate of Potash.

$KO,2CrO_3$ or $K_2Cr_2O_7$.

Characters and Tests.—In large red, transparent four-sided tables; anhydrous; fuses below redness; at a higher temperature is decomposed, yielding green oxide of chromium and yellow chromate of potash, which may be separated by dissolving the latter in water. The bichromate dissolved in water gives a yellowish-white precipitate with chloride of barium, and a purplish red precipitate with nitrate of silver, and both these precipitates are soluble in diluted nitric acid. The solution also when digested with sulphuric acid and rectified spirit acquires an emerald green colour.

Preparation in which Bichromate of Potash is used.

Sodæ Valerianas

POTASSÆ CARBONAS.

Carbonate of Potash.

KO,CO_2 or K_2CO_3 with about 16 per cent. of water of crystallisation.

Obtained from commercial pearl-ash, the product of lixiviation of wood-ashes, by treating the pearl-ash with its own weight of distilled water, and evaporating the solution so formed to dryness, while it is kept briskly agitated.

Characters and Tests.—A white crystalline powder, alkaline and caustic to the taste, very deliquescent, readily soluble in water but insoluble in spirit, effervescing with diluted hydrochloric acid, and forming a solution with which perchloride of platinum gives a yellow precipitate. Loses about sixteen per cent. of its weight when exposed to a red heat. When supersaturated with nitric acid, and evaporated to dryness, the residue is almost entirely soluble in water, only a little silica remaining undissolved; and the solution is precipitated only faintly by chloride of barium, and nitrate of silver. Eighty-three grains require for neutralisation at least 980 grain-measures of the volumetric solution of oxalic acid.

20 grains Carbonate of Potash } neutralise { 17 grains Citric Acid, or
18 grains Tartric Acid

Dose.—10 to 30 grains.

Preparations in which Carbonate of Potash is used.

Atropia
Decoctum Aloes compositum
Enema Aloes
Liquor Arsenicalis
,, Potassæ
Mistura Ferri composita
Potassa Sulphurata
Potassæ Acetas
,, Bicarbonas
,, Chloras
,, Citras
,, Tartras

POTASSÆ CHLORAS.

CHLORATE OF POTASH.

KO,ClO_5 or $\mathbf{KClO_3}$.

May be obtained by the following process:

Take of

Carbonate of Potash	20 ounces
Slaked Lime	53 ounces
Distilled Water	a sufficiency
Black Oxide of Manganese . . .	80 ounces
Hydrochloric Acid	24 pints

Mix the lime with the carbonate of potash and triturate them with a few ounces of the water so as to make the mixture slightly moist. Place the oxide of manganese in a large retort or flask, and having poured upon it the hydrochloric acid, diluted with six pints of water, apply a gentle sand heat, and conduct the chlorine as it comes over, first through a bottle containing six ounces of water, and then into a large carboy containing the mixture of carbonate of potash and slaked lime. When the whole of the chlorine has come over, remove the contents of the carboy, and boil them for twenty minutes with seven pints of the water; filter and evaporate till a film forms on the surface, and set aside to cool and crystallise. The crystals thus obtained are to be purified by dissolving them in three times their weight of boiling distilled water and again allowing the solution to crystallise.

Characters and Tests.—In colourless rhomboidal crystalline plates, with a cool saline taste sparingly soluble in cold water. It explodes when triturated with sulphur. Its solution is not affected by nitrate of silver, or oxalate of ammonia. By heat it fuses, gives off oxygen gas, and leaves a white residue, readily forming with water a neutral solution, which is precipitated white by nitrate of silver, and yellow by perchloride of platinum.

Dose.—10 to 30 grains.

Preparations in which Chlorate of Potash is used.

Potassæ Permanganas	
Trochisci Potassæ Chloratis .	5 grains in each lozenge

POTASSÆ CITRAS.

CITRATE OF POTASH.

$3KO,C_{12}H_5O_{11}$ or $\mathbf{K_3C_6H_5O_7}$.

Take of

Carbonate of Potash .	8 ounces, or a sufficiency
Citric Acid, in crystals .	6 ounces, or a sufficiency
Distilled Water . .	2 pints

Dissolve the citric acid in the water, add the carbonate of potash gradually, and, if the solution be not neutral, make it so by the cautious addition of the acid or the carbonate of potash. Then filter, and evaporate to dryness, stirring constantly after a pellicle has begun to form, till the salt granulates. Triturate in a dry warm mortar, and preserve the powder in stoppered bottles.

Characters and Tests.—A white powder of saline feebly acid taste, deliquescent, and very soluble in water. Heated with sulphuric acid it forms a brown fluid, gives off an inflammable gas, and evolves the odour of acetic acid. Its solution, mixed with a solution of chloride of calcium, remains clear till it is boiled, when a white precipitate separates, readily soluble in acetic acid. Its solution, acidulated with hydrochloric acid, gives a yellow precipitate with perchloride of platinum. 102 grains heated to redness till gases cease to be evolved leave an alkaline residue, which requires for exact neutralisation 1000 grain-measures of the volumetric solution of oxalic acid.

Dose.—20 to 60 grains.

POTASSÆ NITRAS.

NITRATE OF POTASH.

KO,NO_5 or $\mathbf{KNO_3}$.

Nitrate of potash of commerce, purified, if necessary, by crystallisation from solution in distilled water.

Characters and Tests.—In white crystalline masses or fragments of striated six-sided prisms, colourless, of a peculiar cool saline taste. Thrown on the fire it deflagrates; warmed in a test tube with sulphuric acid and copper wire it evolves ruddy fumes. Its solution acidulated with hydrochloric acid gives a yellow precipitate with perchloride of platinum. Its solution is not affected by chloride of barium or nitrate of silver.

Dose.—10 to 30 grains.

POTASSÆ PERMANGANAS.

PERMANGANATE OF POTASH.

KO,Mn_2O_7 or $\mathbf{KMnO_4}$.

Take of

Caustic Potash	5 ounces
Black Oxide of Manganese, in fine powder	4 ounces
Chlorate of Potash	3½ ounces
Diluted Sulphuric Acid	a sufficiency
Distilled Water	2½ pints

Reduce the chlorate of potash to fine powder, and mix it with the oxide of manganese; put the mixture into a porcelain basin, and add to it the caustic potash, previously dissolved in four ounces of the water. Evaporate to dryness on a sand-bath, stirring diligently to prevent spurting. Pulverise the mass, put it into a covered Hessian or Cornish crucible, and expose it to a dull red heat for an hour, or till it has assumed the condition of a semifused mass. Let it cool, pulverise it, and boil with a pint and a half of the water. Let the insoluble matter subside, decant the fluid, boil again with half a pint of the water, again decant, neutralise the united liquors accurately with the diluted sulphuric acid, and evaporate till a pellicle forms. Set aside to cool and crystallise. Drain the crystalline mass, boil it in six ounces of the water, and strain through a funnel the throat of which is lightly obstructed by a little asbestos. Let the fluid cool and crystallise, drain the crystals, and dry them by placing them under a bell jar over a vessel containing sulphuric acid.

Characters and Tests.—Dark purple slender prismatic crystals, inodorous, with a sweet astringent taste, soluble in water. A single small crystal suffices to form with an ounce of water a rich purple solution, which, when mixed with a little rectified spirit and heated, becomes yellowish-brown. The crystals heated to redness decrepitate, evolve oxygen gas, and leave a black residue, from which water extracts potash, recognised by its alkaline reaction, and by its giving, when acidulated with hydrochloric acid, a yellow precipitate with perchloride of platinum. Entirely soluble in cold water. Five grains dissolved in water require for complete decoloration a solution of forty-four grains of granulated sulphate of iron acidulated with two fluid drachms of diluted sulphuric acid.

Preparation.

Liquor Potassæ Permanganatis .	4 grains in 1 fluid ounce

POTASSÆ PRUSSIAS FLAVA.

YELLOW PRUSSIATE OF POTASH.

Synonym.—FERROCYANIDE OF POTASSIUM.

$K_2FeC_6N_3 + 3HO$ or $\mathbf{K_4FeC_6N_6.3H_2O}$.

A salt obtained by fusing animal substances, such as the cuttings of horns, hoofs, and skins, with carbonate of potash, in an iron pot, lixiviating the crude product with water, and purifying the salt by crystallisation.

Characters and Tests.—In large yellow crystals, permanent in the air, soluble in water, insoluble in alcohol. The aqueous solution precipitates deep blue with persulphate of iron, brick-red with sulphate of copper, and white with acetate of lead. Heated with diluted sulphuric acid, hydrocyanic acid vapours are evolved.

Preparation in which Yellow Prussiate of Potash is used.

Acidum Hydrocyanicum dilutum

POTASSÆ SULPHAS.

SULPHATE OF POTASH.

KO,SO_3 or $\mathbf{K_2SO_4}$.

Characters and Tests.—In colourless hard six-sided prisms terminated by six-sided pyramids; decrepitates strongly when heated; sparingly soluble in water; insoluble in alcohol. The aqueous solution is neutral to test paper, gives no precipitate with oxalate of ammonia, but acidulated with hydrochloric acid it is precipitated white by chloride of barium, and yellow by perchloride of platinum.

Dose.—15 to 60 grains.

Preparations.

Pilula Colocynthidis composita
,, ,, et Hyoscyami
Pulvis Ipecacuanhæ compositus . . 4 parts in 5

POTASSÆ TARTRAS.

TARTRATE OF POTASH.

$2KO,C_8H_4O_{10}$ or $\mathbf{K_2C_4H_4O_6}$.

Take of

Acid Tartrate of Potash .	20 ounces, or a sufficiency
Carbonate of Potash .	9 ounces, or a sufficiency
Boiling Distilled Water .	2½ pints

Dissolve the carbonate of potash in the water; add by degrees the acid tartrate of potash, and if, after a few minutes' boiling, the liquid is not neutral to test paper, make it so by the careful addition of more of the carbonate or of the acid tartrate. Then filter, concentrate till a pellicle forms on the surface, and set it aside to cool and crystallise. More crystals may be obtained by evaporating and cooling the mother liquor. Drain the crystals, dry them by exposure to the air in a warm place, and preserve them in a stoppered bottle.

Characters and Tests.—In small colourless four or six-sided prisms. Heated with sulphuric acid it forms a black tarry fluid, evolving inflammable gas and the odour of burned sugar. Acetic acid added sparingly to its solution causes the separation of a white crystalline precipitate. Entirely dissolved by its own weight of water. 113 grains, heated to redness till gases cease to be evolved, leave an alkaline residue, which requires for exact neutralisation 1000 grain-measures of the volumetric solution of oxalic acid.

Dose.—60 grains to ½ ounce.

POTASSÆ TARTRAS ACIDA.

ACID TARTRATE OF POTASH.

Synonyms.—POTASSÆ BITARTRAS.
CREAM OF TARTAR.

$KO,HO,C_8H_4O_{10}$ or $\mathbf{KHC_4H_4O_6}$.

An acid salt obtained from the crude tartar which is deposited during the fermentation of grape juice.

Characters and Tests.—A gritty white powder, or fragments of cakes crystallised on one surface; of a pleasant acid taste, sparingly soluble in water, insoluble in spirit. Heated in a crucible it evolves inflammable gas and the odour of burned sugar, and leaves a black residue. This effervesces with diluted hydrochloric acid, and forms a solution which when filtered gives a yellow precipitate with perchloride of platinum, and when neutralised by ammonia is rendered slightly turbid by oxalic acid. 188 grains heated to redness till gas ceases to be evolved, leave an alkaline residue, which requires for exact neutralisation 1000 grain-measures of the volumetric solution of oxalic acid.

Dose.—20 to 60 grains.

Preparations in which Acid Tartrate of Potash is used.

Acidum Tartaricum
Antimonium Tartaratum
Confectio Sulphuris
Ferrum Tartaratum
Potassæ Tartras
Pulvis Jalapæ compositus
Soda Tartarata

POTASSII BROMIDUM.

Bromide of Potassium.

KBr or $\mathbf{KBr}$.

May be obtained by the following process:—

Take of

Solution of Potash	2 pints
Bromine	4 fluid ounces, or a sufficiency
Wood Charcoal, in fine powder . .	2 ounces
Boiling Distilled Water . . .	1½ pint

Put the solution of potash into a glass or porcelain vessel, and add the bromine in successive portions, with constant agitation, until the mixture has acquired a permanent brown tint. Evaporate to dryness; reduce the residue to a fine powder, and mix this intimately with the charcoal. Throw the mixture in small quantities at a time into a red-hot iron crucible, and when the whole has been brought to a state of fusion, remove the crucible from the fire and pour out its contents. When the fused mass has cooled dissolve it in the water, filter the solution through paper, and set it aside to crystallise. Drain the crystals, and dry them with a gentle heat. More crystals may be obtained by evaporating the mother liquor and cooling. The salt should be kept in a stoppered bottle.

Characters.—In colourless cubical crystals, with no odour, but a pungent saline taste, readily soluble in water, less soluble in spirit. Its aqueous solution gives a white crystalline precipitate with tartaric acid. When its solution in water is mixed with a little chlorine, chloroform agitated with it, on falling to the bottom, exhibits a red colour. Ten grains require for complete decomposition 840 grain-measures of the volumetric solution of nitrate of silver. A solution of the salt mixed with mucilage of starch and a drop of an aqueous solution of bromine or chlorine does not exhibit any blue colour.

Dose.—5 to 30 grains.

POTASSII IODIDUM.

IODIDE OF POTASSIUM.

KI or **KI**.

May be obtained by the following process:

Take of

Solution of Potash	1 gallon
Iodine	29 ounces, or a sufficiency
Wood Charcoal, in fine powder . .	3 ounces

Put the solution of potash into a glass or porcelain vessel, and add the iodine in small quantities at a time with constant agitation, until the solution acquires a permanent brown tint. Evaporate the whole to dryness in a porcelain dish, pulverise the residue, and mix this intimately with the charcoal. Throw the mixture, in small quantities at a time, into a red-hot iron crucible, and, when the whole has been brought to a state of fusion, remove the crucible from the fire and pour out its contents. When the fused mass has cooled, dissolve it in two pints of boiling distilled water, filter through paper, wash the filter with a little boiling distilled water, unite the liquids, and evaporate the whole till a film forms on the surface. Set it aside to cool and crystallise. Drain the crystals, and dry them quickly with a gentle heat. More crystals may be obtained by evaporating the mother liquor and cooling. The salt should be kept in a stoppered bottle.

Characters and Tests.—In colourless, generally opaque, cubic crystals, readily soluble in water, and in a less degree in spirit. It commonly has a feeble alkaline reaction; its solution mixed with mucilage of starch gives a blue colour on the addition of a minute quantity of solution of chlorine. It gives a crystalline precipitate with tartaric acid. The addition of tartaric acid and mucilage of starch to its watery solution does not develope a blue colour. Solution of nitrate of silver added in excess forms a yellowish-white precipitate, which, when agitated with ammonia, yields by subsidence a clear liquid in which excess of nitric acid causes no turbidity. Its aqueous solution is only faintly precipitated by the addition of saccharated solution of lime.

Dose.—2 to 10 grains.

Preparations containing Iodide of Potassium.

Linimentum Iodi .	22 grains in 1 fluid ounce, nearly
,, Potassii Iodidi cum Sapone	54½ grains in 1 fluid ounce, nearly
Liquor Iodi . . .	30 grains in 1 fluid ounce
Tinctura Iodi . .	5½ grains in 1 fluid ounce, nearly
Unguentum Iodi .	16 grains in 1 ounce, nearly
,, Potassii Iodidi . . .	1 part in 8¾, nearly

PRUNUM.

PRUNE.

The dried drupe of the Plum, Prunus domestica *Linn.*; *Woodv. Med. Bot.*, plate 85. From southern Europe.

Preparation.

Confectio Sennæ . . . . . 1 part to 12½

PTEROCARPI LIGNUM.

RED SANDAL-WOOD.

The wood of Pterocarpus santalinus *Linn.; Woodv. Med. Bot.*, plate 254. From Ceylon.

Characters.—Dense heavy billets, outwardly dark brown, internally variegated with dark and lighter red rings, if cut transversely. Powder blood-red, of a faint peculiar odour, and an obscurely astringent taste. Also chips of the same.

Preparation.—Tinctura Lavandulæ composita.

PULVIS AMYGDALÆ COMPOSITUS.

COMPOUND POWDER OF ALMONDS.

Synonyms.—CONFECTIO AMYGDALÆ, *Lond.*
CONSERVA AMYGDALARUM, *Ed.*

Take of

Sweet Almonds	8 ounces
Refined Sugar, in powder . . .	4 ounces
Gum Acacia, in powder	1 ounce

Steep the almonds in warm water until their skins can be easily removed; and, when blanched, dry them thoroughly with a soft cloth, and rub them lightly in a mortar to a smooth consistence. Mix the gum and the sugar; and, adding them to the pulp gradually, rub the whole to a coarse powder. Keep it in a lightly covered jar.

Preparation.

Mistura Amygdalæ . .	2½ ounces to 1 pint

PULVIS ANTIMONIALIS.

ANTIMONIAL POWDER.

Take of

Oxide of Antimony	1 ounce
Phosphate of Lime	2 ounces

Mix them thoroughly.

Dose.—3 to 10 grains.

PULVIS CATECHU COMPOSITUS.

COMPOUND POWDER OF CATECHU.

Take of

Pale Catechu, in powder	4 ounces
Kino, in powder	of each 2 ounces
Rhatany Root, in powder	
Cinnamon Bark, in powder	of each 1 ounce
Nutmeg, in powder	

Mix them thoroughly, pass the powder through a fine sieve, and finally rub it lightly in a mortar. Keep it in a stoppered bottle.

Dose.—20 to 40 grains.

PULVIS CINNAMOMI COMPOSITUS.

COMPOUND POWDER OF CINNAMON.

Synonym.—PULVIS AROMATICUS, *Edin.*

Take of

Cinnamon Bark, in powder	of each 1 ounce
Cardamom Seeds, in powder	
Ginger, in powder	

Mix them thoroughly, pass the powder through a fine sieve, and finally rub it lightly in a mortar. Keep it in a stoppered bottle.

Dose.—3 to 10 grains.

Preparations.

Pilula Aloes et Ferri	1 part in $3\frac{1}{2}$
,, Cambogiæ composita	1 part in 6, nearly

PULVIS CRETÆ AROMATICUS.

Aromatic Powder of Chalk.

Synonym.—Confectio Aromatica, *Lond.*

Take of

Cinnamon Bark, in powder		4 ounces
Nutmeg, in powder Saffron, in powder	of each	3 ounces
Cloves, in powder		1½ ounce
Cardamom Seeds, in powder		1 ounce
Refined Sugar, in powder		25 ounces
Prepared Chalk		11 ounces

Mix them thoroughly, pass the powder through a fine sieve, and finally rub it lightly in a mortar. Keep it in a stoppered bottle.

Dose.—10 to 60 grains.

PULVIS CRETÆ AROMATICUS CUM OPIO.

Aromatic Powder of Chalk and Opium.

Take of

Aromatic Powder of Chalk	9¾ ounces
Opium, in powder	¼ ounce

Mix them thoroughly, pass the powder through a fine sieve, and finally rub it lightly in a mortar. Keep it in a stoppered bottle.

Dose.—10 to 40 grains.

PULVIS IPECACUANHÆ COMPOSITUS.

Compound Powder of Ipecacuanha.

Synonym.—Pulvis Ipecacuanhæ cum Opio, 1864.

Take of

Ipecacuanha, in powder	½ ounce
Opium, in powder	½ ounce
Sulphate of Potash, in powder	4 ounces

Mix them thoroughly, pass the powder through a fine sieve, and finally rub it lightly in a mortar. Keep it in a stoppered bottle.

Dose.—5 to 15 grains.

Preparation.

Pilula Ipecacuanhæ cum Scilla . .	3 parts in 7

PULVIS JALAPÆ COMPOSITUS.

COMPOUND POWDER OF JALAP.

Take of

Jalap, in powder	5 ounces
Acid Tartrate of Potash	9 ounces
Ginger, in powder	1 ounce

Mix them thoroughly, pass the powder through a fine sieve, and finally rub it lightly in a mortar.

Dose.—20 to 60 grains.

PULVIS KINO COMPOSITUS.

COMPOUND POWDER OF KINO.

Synonym.—PULVIS KINO CUM OPIO, 1864.

Take of

Kino, in powder	$3\frac{3}{4}$ ounces	15
Opium, in powder	$\frac{1}{4}$ ounce	1
Cinnamon Bark, in powder . . .	1 ounce	4

Mix them thoroughly, pass the powder through a fine sieve, and finally rub it lightly in a mortar. Keep it in a stoppered bottle.

Dose.—5 to 20 grains.

PULVIS OPII COMPOSITUS.

COMPOUND POWDER OF OPIUM.

Take of

Opium, in powder	1½ ounce	3
Black Pepper, in powder	2 ounces	4
Ginger, in powder	5 ounces	10
Caraway Fruit, in powder	6 ounces	
Tragacanth, in powder	½ ounce	

Mix them thoroughly, pass the powder through a fine sieve, and finally rub it lightly in a mortar. Keep it in a stoppered bottle.

This powder nearly represents the dry ingredients of CONFECTIO OPII, *Lond.* See page 87.

Dose.—2 to 5 grains.

Preparation.—Confectio Opii, 1 part in 4, nearly.

PULVIS RHEI COMPOSITUS.

COMPOUND POWDER OF RHUBARB.

Take of

Rhubarb Root, in powder	2 ounces
Light Magnesia	6 ounces
Ginger, in powder	1 ounce

Mix them thoroughly, and pass the powder through a fine sieve.

Dose.—20 to 60 grains.

PULVIS SCAMMONII COMPOSITUS.

COMPOUND POWDER OF SCAMMONY.

Take of

Scammony, in powder	4 ounces
Jalap, in powder	3 ounces
Ginger, in powder	1 ounce

Mix them thoroughly, pass the powder through a fine sieve, and finally rub it lightly in a mortar.

Dose.—10 to 20 grains.

PULVIS TRAGACANTHÆ COMPOSITUS.

Compound Powder of Tragacanth.

Take of

Tragacanth in powder	of each	1 ounce
Gum Acacia, in powder		
Starch, in powder		
Refined Sugar, in powder		3 ounces

Rub them well together.

Dose.—20 to 60 grains.

PYRETHRI RADIX.

Pellitory Root.

The root of Anacyclus Pyrethrum *De Cand.*, imported from the Levant.

Characters.—In pieces about the length and thickness of the little finger, covered with a thick brown bark, studded with black shining points. Breaks with a resinous fracture and presents internally a radiated structure. When chewed, it excites a prickling sensation in the lips and tongue, and a glowing heat.

Preparation.—Tinctura Pyrethri, 4 ounces to 1 pint.

PYROXYLIN.

Gun Cotton.

Take of

Cotton		1 ounce
Sulphuric Acid	of each	5 fluid ounces
Nitric Acid		

Mix the acids in a porcelain mortar, immerse the cotton in the mixture, and stir it for three minutes with a glass rod, until it is thoroughly wetted by the acids. Transfer the cotton to a vessel containing water, stir it well with a glass rod, decant the liquid, pour more water upon the mass, agitate again, and repeat the affusion, agitation, and decantation, until the washing ceases to give a precipitate with chloride of barium. Drain the product on filtering paper, and dry in a water-bath.

Tests.—Readily soluble in a mixture of ether and rectified spirit; leaves no residue when exploded by heat.

Preparations.—Collodium; Collodium Flexile.

QUASSIÆ LIGNUM.

Quassia Wood.

The wood of Picræna excelsa, *Lindl.; Steph. and Church. Med. Bot.* (*Quassia excelsa*), plate 173. From Jamaica.

Characters.—Billets varying in size, seldom thicker than the thigh. Wood dense, tough, yellowish white, intensely and purely bitter. Also chips of the same.

Preparations.

Extractum Quassiæ	
Infusum Quassiæ	6 grains to 1 fluid ounce
Tinctura Quassiæ	16½ grains to 1 fluid ounce

QUERCUS CORTEX.

Oak Bark.

The dried bark of the small branches and young stems of Quercus pedunculata, *Willd; Woodv. Med. Bot.* (*Q. Robur*), plate 126. Collected in spring, from trees growing in Britain.

Characters.—Covered with a greyish shining epidermis, cinnamon-coloured on the inner surface, fibrous, brittle, and strongly astringent.

Preparation.—Decoctum Quercûs, $1\frac{1}{4}$ ounce to 1 pint.

QUINIÆ SULPHAS.

SULPHATE OF QUINIA.

$C_{40}H_{24}N_2O_4,HO,SO_3+7HO$, or $(C_{20}H_{24}N_2O_2)_2H_2SO_4.7H_2O$.

The sulphate of an alkaloid, prepared from Yellow-Cinchona bark, and from the bark of Cinchona lancifolia, *Mutis*. It may be obtained by the following process:—

Take of

Yellow Cinchona Bark, in coarse powder	1 pound
Hydrochloric Acid	3 fluid ounces
Distilled Water	a sufficiency
Solution of Soda	4 pints
Diluted Sulphuric Acid . . .	a sufficiency

Dilute the hydrochloric acid with ten pints of the water. Place the cinchona bark in a porcelain basin, and add to it as much of the diluted hydrochloric acid as will render it thoroughly moist. After maceration, with occasional stirring for twenty-four hours, place the bark in a displacement apparatus, and percolate with the diluted hydrochloric acid, until the solution which drops through is nearly destitute of bitter taste. Into this liquid pour the solution of soda, agitate well, let the precipitate completely subside, decant the supernatant fluid, collect the precipitate on a filter, and wash it with cold distilled water, until the washings cease to have colour. Transfer the precipitate to a porcelain dish containing a pint of distilled water, and applying to this the heat of a water-bath, gradually add diluted sulphuric acid until very nearly the whole of the precipitate has been dissolved, and a neutral liquid has been obtained. Filter the solution while hot through paper, wash the filter with boiling distilled water, concentrate till a film forms on the surface of the solution, and set it aside to crystallise. The crystals should be dried on filtering paper without the application of heat.

Characters and Tests.—Filiform silky snow-white crystals, of a pure intensely bitter taste, sparingly soluble in water, yet imparting to it a peculiar bluish tint. The solution gives with chloride of barium a white precipitate insoluble in nitric acid, and when treated first with solution of chlorine and afterwards with ammonia it becomes of a splendid emerald-green colour. Dissolves in pure sulphuric acid with a feeble yellowish tint, and undergoes no further change of colour when gently warmed. Ten grains with ten minims of diluted sulphuric acid and half a fluid ounce of water form a perfect solution, from which ammonia throws down a white precipitate. This redissolves on agitating the whole with half a fluid ounce of ether, without the production of any crystalline matter floating on the lower of the two strata, into which the agitated fluid separates on rest. 25 grains of the salt should lose 3·6 grains of water by drying at 212°.

Dose.—1 to 10 grains.

Preparations.

Ferri et Quiniæ Citras	16 parts Quinia in 100
Pilula Quiniæ	3 parts in 4
Tinctura Quiniæ	8 grains in 1 fluid ounce
Vinum Quiniæ	1 grain in 1 fluid ounce

RESINA.

Resin.

The residue of the distillation of the turpentines from various species of Pinus *Linn.* and Abies *Lam.*

Characters.—Translucent, yellowish, brittle, pulverisable; fracture shining; odour and taste faintly terebinthinate. It is easily fusible, and burns with a dense yellow flame and much smoke.

Preparations.

Charta Epispastica
Emplastrum Calefaciens
,, Cantharidis
,, Hydrargyri
,, Picis
Emplastrum Resinæ
,, Saponis
Unguentum Resinæ
,, Terebinthinæ

RHAMNI SUCCUS.

BUCKTHORN JUICE.

The recently expressed juice of the ripe berries of common Buckthorn, Rhamnus catharticus, *Linn.*

Preparation.—Syrupus Rhamni.

RHEI RADIX.

RHUBARB ROOT.

The dried root deprived of the bark, from one or more undetermined species of Rheum *Linn.* From China, Chinese Tartary, and Thibet. Imported from Shanghai and Canton, and brought overland by way of Moscow.

Characters.—Trapezoidal roundish cylindrical or flattish pieces, frequently bored with one hole, yellow externally, internally marbled with fine waving greyish and reddish lines, finely gritty under the teeth; taste bitter, faintly astringent and aromatic; odour peculiar. Free from decay, not worm-eaten. Boracic acid does not turn the yellow exterior brown.

Dose.—5 to 20 grains.

Preparations.

Extractum Rhei	
Infusum Rhei . .	11 grains to 1 fluid ounce
Pilula Rhei composita .	1 part in 4, nearly
Pulvis Rhei compositus .	2 parts in 9
Syrupus Rhei	
Tinctura Rhei . .	44 grains to 1 fluid ounce
Vinum Rhei . . .	33 grains to 1 fluid ounce

RHŒADOS PETALA.

Red-Poppy Petals.

The fresh petals of Papaver Rhœas *Linn.; Woodv. Med. Bot.,* plate 186. From indigenous plants.

Characters.—Of a scarlet colour and heavy poppy odour.

Preparation.—Syrupus Rhœados.

ROSÆ CANINÆ FRUCTUS.

Fruit of the Dog-Rose. Hips.

The ripe fruit of the Dog Rose, Rosa canina, *Linn.,* and other indigenous allied species.

Characters.—An inch or more in length, ovate, scarlet, smooth, shining; taste sweet, subacid, pleasant.

Preparation.—Confectio Rosæ Caninæ.

ROSÆ CENTIFOLIÆ PETALA.

Cabbage-rose Petals.

The fresh petals, fully expanded, of Rosa centifolia, *Linn.; Woodv. Med. Bot.,* plate 140. From plants cultivated in Britain.

Characters.—Taste sweetish, bitter, and faintly astringent; odour roseate; both readily imparted to water.

Preparation.—Aqua Rosæ, 10 pounds to 1 gallon.

ROSÆ GALLICÆ PETALA.

Red-Rose Petals.

The fresh and dried unexpanded petals of Rosa gallica, *Linn.; Woodv. Med. Bot.,* plate 141. From plants cultivated in Britain.

Characters.—Colour fine purplish-red, retained after drying; taste bitterish, feebly acid, and astringent; odour roseate, developed by drying.

Preparations.

Confectio Rosæ Gallicæ .	1 part fresh petals in 4
Infusum Rosæ Acidum .	½ ounce dried petals to 1 pint
Syrupus Rosæ Gallicæ	

SABADILLA.

CEVADILLA.

The dried fruit of Asagræa officinalis, *Lind.; Bot. Reg.* vol. xxv. plate 33. Imported from Mexico.

Characters.—Fruit about half an inch long, consisting of three light-brown papyraceous follicles, each containing from one to three seeds, which are about a quarter of an inch long, blackish-brown, shining, slightly winged, possessing an intensely acrid bitter taste.

Preparation.—Veratria.

SABINÆ CACUMINA.

SAVIN TOPS.

The fresh and dried tops of Juniperus Sabina, *Linn.; Woodv. Med. Bot.,* plate 94. Collected in spring, from plants cultivated in Britain.

Characters.—Twigs densely covered with minute imbricated appressed leaves in four rows; odour strong, peculiar, and unpleasant; taste acrid, bitter, resinous, and disagreeable.

Dose in powder.—4 to 10 grains.

Preparations.

Oleum Sabinæ, from fresh plant	
Tinctura Sabinæ . .	2½ ounces, dried, to 1 pint
Unguentum Sabinæ .	8 ounces, fresh, to 19 ounces

SACCHARUM PURIFICATUM.

Refined Sugar.

$C_{24}H_{22}O_{22}$, or $C_{12}H_{22}O_{11}$.

Pure cane sugar prepared from the juice of the stem of Saccharum Officinarum, *Linn.; Nees, Plant. Med.* plates 33, 34, 35. From plants cultivated in the West Indies and other tropical countries.

Characters.—Compact crystalline conical loaves, known in commerce as lump sugar.

Preparations.

Confectio Rosæ Caninæ
„ „ Gallicæ
„ Sennæ
Ferri Carbonas Saccharata
Liquor Calcis Saccharatus
Mistura Ferri composita
„ Guaiaci
Pilula Ferri Iodidi
Pulvis Cretæ Aromaticus
„ Amygdalæ compositus
„ Tragacanthæ compositus
Suppositoria Morphiæ
All the Syrups and Lozenges

SACCHARUM LACTIS.

Sugar of Milk.

$C_{24}H_{24}O_{24}$, or $C_{12}H_{24}O_{12}$.

A crystallised sugar, obtained from the whey of milk by evaporation.

Characters.—Usually in cylindrical masses, two inches in diameter, with a cord or stick in the axis, or in fragments of cakes; greyish-white, crystalline on the surface and in its texture, translucent, hard, scentless, faintly sweet, gritty when chewed.

SAMBUCI FLORES.

ELDER FLOWERS.

The fresh flowers of Sambucus nigra, *Linn.*; *Woodv. Med. Bot.*, plate 76. From indigenous plants.

Characters.—Flowers small, white, fragrant, crowded in large cymes.

Preparation.—Aqua Sambuci, 10 pounds to 1 gallon.

SANTONICA.

SANTONICA.

The unexpanded flower-heads of an undetermined species of Artemisia *Linn.* Imported from Russia.

Characters.—Flower-heads rather more than a line in length and nearly half a line in breadth, fusiform, blunt at each end, pale greenish-brown, smooth; resembling seeds in appearance, but consisting of imbricated involucral scales with a green midrib, enclosing four or five tubular flowers; odour strong, taste bitter, camphoraceous. Flower-heads not round or hairy.

Dose.—10 to 60 grains.

Preparation.—Santoninum.

SANTONINUM.

SANTONIN.

$C_{30}H_{18}O_6$ or $C_{15}H_{18}O_3$.

A crystalline neutral principle prepared from Santonica. It may be obtained by the following process:—

Take of

Santonica, bruised	1 pound
Slaked Lime	7 ounces
Hydrochloric Acid	a sufficiency
Solution of Ammonia . . .	½ fluid ounce
Rectified Spirit	14 fluid ounces
Purified Animal Charcoal . .	60 grains
Distilled Water	a sufficiency

Boil the santonica with a gallon of the water and five ounces of the lime, in a copper or tinned iron vessel, for an hour, strain through a stout cloth, and express strongly. Mix the residue with half a gallon of the water and the rest of the lime, boil for half an hour, strain and express as before. Mix the strained liquors, let them settle, decant the fluid from the deposit, and evaporate to the bulk of two pints and a half. To the liquor while hot, add, with diligent stirring, the hydrochloric acid until the fluid has become slightly and permanently acid, and set it aside for five days that the precipitate may subside. Remove by skimming any oily matter which floats on the surface, and carefully decant the greater part of the fluid from the precipitate. Collect this on a paper filter, wash it first with cold distilled water till the washings pass colourless and nearly free from acid reaction, then with the solution of ammonia previously diluted with five fluid ounces of the water, and lastly with cold distilled water till the washings pass colourless. Press the filter containing the precipitate between folds of filtering paper, and dry it with a gentle heat. Scrape the dry precipitate from the filter, and mix it with the animal charcoal. Pour on them nine ounces of the rectified spirit, digest for half an hour, and boil for ten minutes. Filter while hot, wash the charcoal with an ounce of boiling spirit, and set the filtrate aside for two days in a cool dark place to crystallise. Separate the mother liquor from the crystals, and concentrate to obtain a further product. Collect the crystals, let them drain, redissolve them in four ounces of boiling spirit, and let the solution crystallise as before. Lastly, dry the crystals on filtering paper in the dark, and preserve them in a bottle protected from light.

Characters and Tests.—Colourless flat rhombic prisms, feebly bitter, fusible and sublimable by a moderate heat; scarcely soluble in cold water, sparingly in boiling water, but abundantly in chloroform and in boiling rectified spirit. Sunlight renders it yellow; not dissolved by diluted mineral acids; entirely destructible by a red heat with free access of air.

Dose.—2 to 6 grains.

SAPO DURUS.

Hard Soap.

Soap made with olive oil and soda.

Characters.—Greyish-white, dry, inodorous; horny and pulverisable when kept in dry warm air; easily moulded when heated. Soluble in rectified spirit; not imparting an oily stain to paper. Incinerated it yields an ash which does not deliquesce.

Preparations.

Emplastrum Resinæ
,, Saponis
Extractum Colocynthidis compositum
Linimentum Potassii Iodidi cum Sapone
,, Saponis

Pilula Aloës Barbadensis
,, ,, et Assafœtidæ
,, ,, Socotrinæ
,, Cambogiæ composita
,, Rhei composita
,, Saponis composita
,, Scillæ composita

SAPO MOLLIS.

Soft Soap.

Soap made with olive oil and potash.

Characters.—Yellowish-green, inodorous, of a gelatinous consistence. Soluble in rectified spirit; not imparting an oily stain to paper. Incinerated it yields an ash which is very deliquescent.

Preparation.

Linimentum Terebinthinæ . 2 parts in 17½, nearly

SARSÆ RADIX.

JAMAICA SARSAPARILLA.

The dried root of Smilax officinalis, *Humb. and Bonpl.* Native of Central America, imported from Jamaica.

Characters.—Roots not thicker than a goose-quill, generally many feet in length, reddish-brown, covered with rootlets, and folded in bundles about eighteen inches long, scentless; taste mucilaginous, feebly bitter, faintly acrid.

Preparations.

Decoctum Sarsæ . . .	$2\frac{1}{2}$ ounces to 1 pint
,, ,, compositum	$2\frac{1}{2}$ ounces to 1 pint
Extractum Sarsæ liquidum .	1 pound to 8 fluid ounces

SASSAFRAS RADIX.

SASSAFRAS ROOT.

The dried root of Sassafras officinale, *Nees, Laurineæ. Woodv. Med. Bot.* plate 31 (*Laurus Sassafras*). From North America.

Characters.—In branched pieces, sometimes eight inches in diameter at the crown; bark externally greyish-brown, internally rusty-brown, of an agreeable odour, and a peculiar aromatic warm taste; wood light, porous, greyish-yellow, more feeble in odour and taste than the bark. Also in chips.

Preparation.

Decoctum Sarsæ compositum .	$\frac{1}{4}$ ounce to 1 pint

SCAMMONIÆ RADIX.

SCAMMONY ROOT.

The dried root of Convolvulus Scammonia, *Linn. Woodv. Med. Bot.* plate 5, p. 13. From Syria and Asia Minor.

Characters.—Tap-shaped roots, sometimes three inches in diameter at the top, brown without, white within, slightly odorous but tasteless. Ether agitated with the powder and evaporated leaves a residue having the properties of scammony resin.

Preparation.—Resina Scammoniæ.

SCAMMONIÆ RESINA.

RESIN OF SCAMMONY.

Take of

Scammony Root, in coarse powder .	8 ounces
Rectified Spirit	a sufficiency
Distilled Water	a sufficiency

Digest the scammony root with sixteen fluid ounces of the spirit in a covered vessel, at a gentle heat, for twenty-four hours; then transfer to a percolator, and, when the tincture ceases to pass, add more spirit and let it percolate slowly until the root is exhausted. Add to the tincture four fluid ounces of the water, and distil off the spirit by a water-bath. Remove the residue while hot to an open dish, and allow it to become cold. Pour off the supernatant fluid from the resin, wash this several times with hot water, and dry it on a porcelain plate with the heat of a stove or water-bath.

It may also be prepared in a similar way from scammony.

Characters and Tests.—In brownish translucent pieces, brittle, resinous in fracture, of a sweet fragrant odour if prepared from the root. It cannot form singly an emulsion with water. Its tincture does not render the fresh-cut surface of a potato blue. Ether dissolves it entirely.

Dose.—3 to 8 grains.

Preparations.

Extractum Colocynthidis compositum	1 part in 7 nearly
Mistura Scammonii . . .	2 grains to 1 fluid ounce

SCAMMONIUM.

SCAMMONY.

A gum resin, obtained by incision from the living root of Convolvulus Scammonia *Linn.*, chiefly in Asia Minor.

Characters and Tests.—Ash-grey and rough externally; fresh fracture resinous, splintery, shining, black when dry; odour and flavour cheesy; causes, when chewed, a slight prickly sensation in the back of the throat; easily triturated into a dirty-grey powder, and converted with water into a smooth emulsion. It does not effervesce with hydrochloric acid. Boiling water agitated with the powder, cooled and filtered, does not strike a blue colour with tincture of iodine. Ether removes from 80 to 90 per cent. of resin; and what remains is chiefly soluble gum, with a little moisture.

Dose.—5 to 10 grains.

Preparations.

Confectio Scammonii . . .	1 part in 3, nearly
Pilula Colocynthidis composita .	1 part in 3, nearly
,, ,, et Hyoscyami	1 part in 4½, nearly
Pulvis Scammonii compositus .	1 part in 2
Resina Scammoniæ	

SCILLA.

SQUILL.

The sliced and dried bulb of Urginea Scilla *Steinheil. Woodv. Med. Bot.* (*Scilla maritima*) plate 118. From the Mediterranean coasts.

Characters.—Bulb pear-shaped, weighing from half a pound to ten pounds; outer scales membranous, brownish-red or white; inner scales thick, whitish, fleshy, juicy; taste mucilaginous, intensely and disagreeably bitter, somewhat acrid.

The dried slices are white or yellowish-white, slightly translucent, scentless, disagreeably bitter, brittle and easily pulverisable if very dry, but, if exposed, readily recovering moisture and flexibility.

Dose, in powder.—1 to 3 grains.

Preparations.

Acetum Scillæ . .	2½ ounces to 1 pint, nearly
Oxymel Scillæ	
Pilula Ipecacuanhæ cum Scilla . .	1 part in 7
,, Scillæ composita .	1¼ ounce to 6 ounces, nearly
Syrupus Scillæ	
Tinctura Scillæ . .	2½ ounces to 1 pint

SCOPARII CACUMINA.

BROOM TOPS.

The fresh and dried tops of Sarothamnus Scoparius *Wimmer.* (*Spartium Scoparium*) Plate 89, *Woodv. Med. Bot.* From indigenous plants.

Characters.—Straight angular dark green smooth tough twigs, of a bitter nauseous taste, and of a peculiar odour when bruised.

Preparations.

Decoctum Scoparii .	1 ounce (dried), to 1 pint
Succus Scoparii (fresh)	

SENEGÆ RADIX.

SENEGA ROOT.

The dried root of Polygala Senega *Linn.* *Steph. and Church Med. Bot.* plate 103. From North America.

Characters.—A knobby root-stock, with a branched tap-root, of about the thickness of a quill, twisted and keeled;

bark yellowish-brown, sweetish, afterwards pungent, causing salivation; interior woody, tasteless, inert.

Preparations.

Infusum Senegæ . . .	1 ounce to 1 pint
Tinctura Senegæ . . .	2½ ounces to 1 pint

SENNA ALEXANDRINA.

ALEXANDRIAN SENNA.

The leaflets of Cassia lanceolata *Lamarck, Encyc., Nees, Plant. Med.* plate 345; and Cassia obovata *Colladon* (*C. Senna*), *Nees, Plant. Med.* plates 347 and 348. Imported from Alexandria; carefully freed from the flowers, pods, and leafstalks of the same, and from the leaves, flowers, and fruit of Solenostemma Argel *Hayne.*

Characters and Tests.—Lanceolate or obovate leaflets, about an inch long, unequally oblique at the base, brittle, greyish-green, of a faint peculiar odour, and mucilaginous sweetish taste. The unequally oblique base, and freedom from bitterness, distinguish the Senna from the Argel leaves, which moreover are thicker and stiffer.

Preparations.

Confectio Sennæ . .	1 part in 11, nearly
Infusum Sennæ . .	2 ounces to 1 pint
Mistura Sennæ composita	
Syrupus Sennæ . .	1 ounce to 2 fluid ounces
Tinctura Sennæ . .	2½ ounces to 1 pint

SENNA INDICA.

TINNIVELLY SENNA.

The leaflets of Cassia elongata *Lemaire. Royle, Bot. Himal.*, plate 37. From plants cultivated in Southern India.

Characters.—About two inches long, lanceolate, acute, unequally oblique at the base, flexible, entire, green, without any admixture; odour and taste those of Alexandrian Senna.

Preparations.

May be used in place of Alexandrian Senna.

SERPENTARIÆ RADIX.

Serpentary Root.

The dried rhizome of Aristolochia Serpentaria, *Linn. Steph. and Church. Med. Bot.* plate 180. From the southern parts of North America.

Characters. — A small roundish rhizome, with a tuft of numerous slender rootlets, about three inches long, yellowish, of an agreeable camphoraceous odour, and a warm bitter camphoraceous taste.

Preparations.

Infusum Serpentariæ . .	½ ounce to 1 pint
Tinctura Cinchonæ composita .	½ ounce to 1 pint
„ Serpentariæ . .	2½ ounces to 1 pint

SEVUM PRÆPARATUM.

Prepared Suet.

The internal fat of the abdomen of the sheep, Ovis Aries, *Linn.* purified by melting and straining.

Characters.—White, smooth, almost scentless; fusible at 103°.

Preparations.

Emplastrum Cantharidis	Unguentum Hydrargyri

SINAPIS.

MUSTARD.

The seeds of Sinapis nigra, *Linn.*, and Sinapis alba, *Linn.*, *Eng. Bot.* plates 969 and 1677; also the seeds reduced to powder, mixed.

Characters of the powder.—Greenish-yellow, of an acrid bitterish oily pungent taste, scentless when dry, but exhaling when moist a pungent penetrating peculiar odour, very irritating to the nostrils and eyes. A decoction cooled is not made blue by tincture of iodine.

Preparation.—Cataplasma Sinapis; Oleum Sinapis.

SODA CAUSTICA.

CAUSTIC SODA.

Hydrate of Soda, NaO,HO, or **NaHO**, with some impurities.

Take of

Solution of Soda . . . . . 2 pints

Boil down the solution of soda rapidly in a silver or clean iron vessel, until there remains a fluid of oily consistence, a drop of which when removed on a warmed glass rod solidifies on cooling. Pour the fluid on a clean silver or iron plate, or into moulds, and, as soon as it has solidified, break it in pieces, and preserve it in stoppered green-glass bottles.

Characters and Tests.—Hard and greyish-white, very alkaline and corrosive. It imparts a yellow colour to flame, and its solution in water acidulated by nitric acid gives only scanty white precipitates with nitrate of silver and chloride of barium. Forty grains ,dissolved in water leave scarcely any sediment, and require for neutralisation about 900 grain-measures of the volumetric solution of oxalic acid.

Preparation containing Caustic Soda.

Liquor Sodæ . . 18·8 grains in 1 fluid ounce

Preparations containing Sodium and its Compounds.

Borax
Cataplasma Sodæ Chloratæ
Emplastrum Belladonnæ
,, Calefaciens
,, Cerati Saponis
,, Opii
,, Resinæ
,, Saponis
Extractum Colocynthidis compositum
Fel Bovinum purificatum
Linimentum Opii
,, Potassii Iodidi cum Sapone
,, Saponis
Liquor Sodæ
,, ,, Arseniatis
,, ,, Chloratæ
,, ,, effervescens
Pilula Aloes Barbadensis
,, ,, et Assafœtidæ
Pilula Aloes Socotrinæ
,, Cambogiæ composita
,, Rhei composita
,, Saponis composita
,, Scillæ composita
Sapo Durus
Soda Caustica
,, Tartarata
Sodæ Acetas
,, Arsenias
,, Bicarbonas
,, Carbonas
,, ,, exsiccata
,, Citro-tartras effervescens
,, Nitras
,, Phosphas
,, Sulphas
,, Valerianas
Sodii Chloridum
Trochisci Sodæ Bicarbonatis

SODA TARTARATA.

TARTARATED SODA.

$NaO,KO,C_8H_4O_{10}+8HO$, or $\mathbf{NaKC_4H_4O_6.4H_2O}$.

Synonyms.—SODÆ ET POTASSÆ TARTRAS, 1864; SODÆ POTASSIO-TARTRAS, *Lond.*

Take of

Acid Tartrate of Potash, in powder .	16 ounces, or a sufficiency
Carbonate of Soda	12 ounces, or a sufficiency
Boiling Distilled Water . . .	4 pints

Dissolve the carbonate of soda in the water, add gradually the acid tartrate of potash, and, if after being boiled for a few minutes the liquid has an acid or alkaline reaction, add a little carbonate of soda or acid tartrate of potash till a neutral solution is obtained. Boil and filter; concentrate the liquor till a pellicle forms on the surface, and set it aside to crystallise. More crystals may be obtained by again evaporating as before.

Characters and Tests.—In colourless transparent prisms or halves of prisms of the right rhombic order, generally eight-sided; tasting like common salt. Heated with sulphuric acid it blackens, evolving inflammable gases and the odour of burnt sugar. It imparts a yellow colour to flame. A strong solution gives a crystalline precipitate with a small quantity of acetic acid. Entirely soluble in cold water. 141 grains heated to redness till gases cease to be evolved, leave an alkaline residue which requires for neutralisation 1000 grain-measures of the volumetric solution of oxalic acid.

Dose.—$\frac{1}{4}$ to $\frac{1}{2}$ ounce.

SODÆ ACETAS.

ACETATE OF SODA.

$NaO,C_4H_3O_3+6HO$ or $\mathbf{NaC_2H_3O_2.3H_2O}$.

Characters and Tests.—In transparent colourless crystals, soluble in water, forming a solution neutral to test paper. The solution when dilute is not precipitated by chloride of barium or nitrate of silver.

Preparations in which Acetate of Soda is used.

Ferri Arsenias
,, Phosphas
Syrupus Ferri Phosphatis

SODÆ ARSENIAS.

Arseniate of Soda.

$2NaO,HO,AsO_5 + 14HO$, or $Na_2HAsO_4.7H_2O$.

Take of

Arsenious Acid	10 ounces
Nitrate of Soda	8½ ounces
Dried Carbonate of Soda	5½ ounces
Boiling Distilled Water	35 ounces

Reduce the dry ingredients separately to fine powder, and mix them thoroughly in a porcelain mortar. Put the mixture into a large clay crucible, and cover it with the lid. Expose to a full red heat, till all effervescence has ceased, and complete fusion has taken place. Pour out the fused salt on a clean flagstone, and as soon as it has solidified, and while it is still warm, put it into the boiling water, stirring diligently. When the salt has dissolved, filter the solution through paper and set it aside to crystallise.

Drain the crystals, and, having dried them rapidly on filtering paper, enclose them in stoppered bottles.

Characters and Tests.—In colourless transparent prisms soluble in water; the solution is alkaline, giving white precipitates with chloride of barium, chloride of calcium, and sulphate of zinc, and a brick-red precipitate with nitrate of silver, all of which are soluble in nitric acid. Heated to 300° it loses 40·38 per cent. of its weight. A watery solution of ten grains of the residue, treated with 53 grain-measures of the volumetric solution of soda, continues to give a precipitate with the volumetric solution of nitrate of silver until 1613 grain-measures of the latter have been added.

Dose.—$\frac{1}{16}$ to $\frac{1}{8}$ grain.

Preparation.

Liquor Sodæ Arseniatis $\left\{\begin{array}{l}\text{6·6 grains or}\\ \text{4 grains dried}\end{array}\right\}$ in 1 fluid ounce

SODÆ BICARBONAS.

BICARBONATE OF SODA.

$NaO,HO,2CO_2$, or $\mathbf{NaHCO_3}$.

May be obtained by the following process:—

Take of

Carbonate of Soda	2 pounds
Dried Carbonate of Soda	3 pounds
White Marble, in fragments	4 pounds
Hydrochloric Acid	1 gallon
Water	2 gallons
Distilled Water	a sufficiency

Fill with the marble a tubulated glass bottle having a few small holes drilled in the bottom, connect the tubulure tightly by a bent tube and corks with an empty two-necked bottle, and connect this with another bottle filled with the carbonates of soda well triturated together, and let the tube be long enough to reach the bottom of the bottle. Before fixing the cork in the bottle containing the carbonate of soda, partially immerse the bottle containing the marble in the hydrochloric acid previously diluted with the water and placed in any convenient vessel. When the whole apparatus is filled with carbonic acid gas, fix in tightly the cork of the bottle containing the carbonate of soda, and let the action go on until the gas ceases to be absorbed. Pour upon the damp salt which is formed half its weight of cold distilled water, and shake it occasionally during the course of half an hour; then drain the undissolved portion, and dry it by exposure to the air on filtering paper placed on porous bricks.

Characters and Tests.—In powder or small opaque irregular scales, white, of a saline not unpleasant taste. Imparts a yellow colour to flame. Dissolves with much effervescence in diluted hydrochloric acid, forming a solution in which perchloride of platinum causes no precipitate. A solution of the salt in cold water gives a white and not a coloured precipitate with solution of perchloride of mercury. When supersaturated with nitric acid its solution scarcely precipitates with chloride of barium or nitrate of silver. Eighty-four grains exposed to a red heat leave fifty-three of an alkaline residue, which requires for neutralisation 1000 grain-measures of the volumetric solution of oxalic acid.

20 grains of Bicarbonate of Soda	neutralise	16·7 grains of Citric Acid, or 17·8 grains Tartaric Acid

Dose.—10 to 60 grains.

Preparations containing Bicarbonate of Soda.

Liquor Sodæ effervescens . .	30 grains in 1 pint
Sodæ Citro-tartras effervescens .	17 parts in 31
Trochisci Sodæ Bicarbonatis .	5 grains in each lozenge

SODÆ CARBONAS.

CARBONATE OF SODA.

NaO,CO_2+10HO, or $\mathbf{Na_2CO_3.10H_2O}$.

Obtained from the ashes of marine plants, or produced by chemical decomposition with chloride of sodium.

Characters and Tests.—In transparent colourless laminar crystals of a rhombic shape, efflorescent, with a harsh alkaline taste and strong alkaline reaction. It imparts a yellow colour to flame, and dissolves with effervescence in diluted hydrochloric acid, forming a solution which does not precipitate with perchloride of platinum. By heat it undergoes aqueous fusion, and then dries up losing sixty-three per cent. of its weight. When supersaturated with nitric acid it precipitates only slightly with chloride of barium or nitrate of silver. One hundred and forty-three grains require for neutralisation at least 960 grain-measures of the volumetric solution of oxalic acid.

20 grains Carbonate of Soda	neutralise	9·7 grains Citric Acid 10½ grains Tartaric Acid

Dose.—5 to 30 grains.

Preparations in which Carbonate of Soda is used.

Liquor Sodæ
,, ,, Chloratæ
Soda Tartarata
Sodæ Arsenias
Sodæ Bicarbonas
,, Carbonas exsiccata
,, Phosphas

SODÆ CARBONAS EXSICCATA.

DRIED CARBONATE OF SODA.

NaO,CO_2, or $\mathbf{Na_2CO_3}$.

Take of

Carbonate of Soda	8 ounces

Expose the carbonate of soda in a porcelain capsule to a rather strong sand heat until the liquid which first forms is converted into a dry cake; and having rubbed this to powder, enclose it in a stoppered bottle.

Dose.—3 to 10 grains.

SODÆ CITRO-TARTRAS EFFERVESCENS.

EFFERVESCENT CITRO-TARTRATE OF SODA.

Take of

Bicarbonate of Soda, in powder . .	17 ounces
Tartaric Acid, in powder . . .	8 ounces
Citric Acid, in powder	6 ounces

Mix the powders thoroughly, place them in a dish or pan of suitable form heated to between 200° and 220°, and when the particles of the powder begin to aggregate, stir them assiduously until they assume a granular form; then, by means of suitable sieves, separate the granules of uniform and most convenient size, and preserve the preparation in well-closed bottles.

Dose.—60 grains to $\frac{1}{4}$ ounce.

SODÆ NITRAS.

NITRATE OF SODA.

NaO,NO_5 or $\mathbf{NaNO_3}$.

A native salt, purified by crystallisation from water.

Characters and Tests.—In colourless obtuse rhombohedral crystals, having a cooling saline taste. Thrown on the fire it deflagrates; warmed in a test tube with sulphuric acid and copper wire, it evolves ruddy fumes. It is soluble in about two parts of cold distilled water. The solution gives no precipitate with nitrate of silver or chloride of barium.

Preparation in which Nitrate of Soda is used.

Sodæ Arsenias.

SODÆ PHOSPHAS.

PHOSPHATE OF SODA.

$2NaO,HO,PO_5+24HO$, or $\mathbf{Na_2HPO_4.12H_2O}$.

It may be obtained by the following process:—

Take of

Bone-Ash, in powder	10 pounds
Sulphuric Acid	56 fluid ounces
Distilled Water	4½ gallons, or a sufficiency
Carbonate of Soda	16 pounds, or a sufficiency

Place the bone-ash in a capacious earthenware or leaden vessel, pour on the sulphuric acid, and stir with a glass rod, until the whole powder is thoroughly moistened. After twenty-four hours, add gradually and with constant stirring a gallon of the water; digest for forty-eight hours, adding distilled water from time to time to replace what has evaporated. Add another gallon of the water, stirring diligently, digest for an hour, filter through calico, and wash what remains on the filter with successive portions of distilled water, till it has almost ceased to have an acid reaction. Concentrate the filtrate to a gallon, let it rest for twenty-four hours, and filter again. Heat the filtrate to near the boiling point, add the carbonate of soda previously dissolved in two gallons of the water, till it ceases to form a precipitate and the fluid has acquired a feeble alkaline reaction. Filter through calico, evaporate the clear liquor till a film forms on the surface, and set it aside to crystallise. More crystals will be obtained by evaporating the mother liquor, a little carbonate of soda being added if necessary to maintain its alkalinity.

Dry the crystals rapidly and without heat on filtering paper placed on porous bricks, and preserve them in stoppered bottles.

Characters and Tests.—In transparent colourless rhombic prisms, terminated by four converging planes, efflorescent, tasting like common salt. It imparts a yellow colour to flame. Its solution has a faintly alkaline reaction, it gives a yellow precipitate with nitrate of silver, the resulting fluid acquiring an acid reaction. Heated to dull redness it loses sixty-three per cent. of its weight, leaving a residue, which, when dissolved in water, gives with chloride of barium a precipitate almost entirely soluble in diluted nitric acid.

Dose.—$\frac{1}{4}$ to 1 ounce.

Preparations in which Phosphate of Soda is used.

Ferri Phosphas
Syrupus Ferri Phosphatis

SODÆ SULPHAS.

SULPHATE OF SODA.

NaO,SO_3+10HO, or $\mathbf{Na_2SO_4.10H_2O}$.

May be obtained from the residue left in the manufacture of hydrochloric acid, by neutralising it with carbonate of soda, and crystallising from solution in water.

Characters and Tests.—In transparent oblique prisms; has a salt and bitter taste; effloresces on exposure to the air; soluble in water, insoluble in spirit. Exposed to heat in a porcelain crucible it loses 55·9 per cent. of water. Heated with solution of potash no odour of ammonia is evolved, and no precipitate is formed. Imparts a yellow colour to flame. Fifty grains of it dissolved in distilled water and acidulated with hydrochloric acid, give by the addition of chloride of barium a white precipitate, which, when it has been washed and dried, weighs 72·2 grains.

Dose.—$\frac{1}{4}$ to 1 ounce.

SODÆ VALERIANAS.

VALERIANATE OF SODA.

$NaO,C_{10}H_9O_3$, or $\mathbf{NaC_5H_9O_2}$.

Take of

Amylic Alcohol (Fousel Oil) . .	4 fluid ounces
Bichromate of Potash . . .	9 ounces
Sulphuric Acid	6½ fluid ounces
Solution of Soda	a sufficiency
Distilled Water	½ gallon

Dilute the sulphuric acid with ten fluid ounces of the water, and dissolve the bichromate of potash in the remainder of the water with the aid of heat. When both liquids are cold, mix them with the fousel oil in a matrass, with occasional brisk agitation, until the temperature of the mixture has fallen to about 90°. Connect the matrass with a condenser, and distil until about half a gallon of liquid has passed over. Saturate the distilled liquid accurately with the solution of soda, remove any oil which floats on the surface, evaporate till watery vapour ceases to escape, and then raise the heat cautiously so as to liquefy the salt. When the product has cooled and solidified, break it into pieces, and immediately put it into a stoppered bottle.

Characters.—In dry white masses without alkaline reaction, entirely soluble in rectified spirit, and giving out a powerful odour of valerian on the addition of diluted sulphuric acid.

Dose.—1 to 5 grains.

Preparation in which Valerianate of Soda is used.

Zinci Valerianas

SODII CHLORIDUM.

CHLORIDE OF SODIUM. COMMON SALT.

$NaCl$, or $\mathbf{NaCl}$.

Characters and Tests.—In small white crystalline grains, or transparent cubic crystals, free from moisture, has a purely saline taste, imparts a yellow colour to flame, is soluble in water. The solution is not precipitated by perchloride of platinum, but gives with nitrate of silver a white precipitate soluble in ammonia, but insoluble in nitric acid.

Preparations in which Chloride of Sodium is used.

Acidum Hydrochloricum	Hydrargyri Perchloridum

Hydrargyri Subchloridum

SPIRITUS ÆTHERIS.

SPIRIT OF ETHER.

Take of

Ether	10 fluid ounces
Rectified Spirit	1 pint

Mix.

Test.—Specific gravity 0·809.

Dose.—30 to 90 minims.

Preparation.—Tinctura Lobeliæ Ætherea.

SPIRITUS ÆTHERIS NITROSI.

SPIRIT OF NITROUS ETHER.

Synonym.—SPIRITUS ÆTHERIS NITRICI, *Lond.*, *Edin.*

A spirituous solution containing nitrous ether, C_4H_5O,NO_3, or $\mathbf{C_2H_5NO_2}$.

Take of

Nitric Acid	3 fluid ounces
Sulphuric Acid	2 fluid ounces
Copper, in fine wire (about No. 25) .	2 ounces
Rectified Spirit	a sufficiency

To one pint of the spirit add gradually the sulphuric acid, stirring them together; then add, in the same way, two and a half fluid ounces of the nitric acid. Put the mixture into a retort or other suitable apparatus, into which the copper has been introduced, and to which a thermometer is fitted. Attach now an efficient condenser, and applying a gentle heat, let the spirit distil at a temperature commencing at 170° and rising to 175°, but not exceeding 180°, until twelve fluid ounces have passed over and been collected in a bottle kept cool, if necessary, with ice-cold water; then withdraw the heat, and having allowed the contents of the retort to cool, introduce the remaining half ounce of nitric acid, and resume the distillation as before, until the distilled product has been increased to 15 fluid ounces. Mix this with two pints of the rectified spirit, or as much as will make the product correspond to the tests of specific gravity and percentage of ether separated by chloride of calcium. Preserve it in well-closed vessels.

Characters and Tests.—Transparent and nearly colourless, with a very slight tinge of yellow, mobile, inflammable, of a peculiar penetrating apple-like odour, and sweetish cooling sharp taste. Specific gravity, 0·845. It effervesces feebly or not at all, when shaken with a little bicarbonate of soda. When agitated with solution of sulphate of iron and a few drops of sulphuric acid it becomes deep olive-brown or black. If it be agitated with twice its volume of saturated solution of chloride of calcium in a closed tube, two per cent. of its original volume will separate in the form of nitrous ether and rise to the surface of the mixture.

Dose.—$\frac{1}{2}$ to 2 fluid drachms.

SPIRITUS AMMONIÆ AROMATICUS.

Aromatic Spirit of Ammonia.[*]

Take of

Carbonate of Ammonia . . .	8 ounces
Strong Solution of Ammonia .	4 fluid ounces
Volatile Oil of Nutmeg . .	4 fluid drachms
Oil of Lemon	6 fluid drachms
Rectified Spirit	6 pints
Water	3 pints

Mix, and distil seven pints.

Test.—Specific gravity 0·870.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

Preparations.

Tinctura Guaiaci Ammoniata
,, Valerianæ Ammoniata

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[*] This preparation is stronger in spirit, and about one-half stronger in ammonia than the Spiritus Ammoniæ Aromaticus of the *Lond. Pharm.*

SPIRITUS AMMONIÆ FŒTIDUS.

FETID SPIRIT OF AMMONIA.

Take of

Assafœtida	1½ ounce
Strong Solution of Ammonia	2 fluid ounces
Rectified Spirit	a sufficiency

Break the assafœtida into small pieces and macerate it, in a closed vessel, in fifteen fluid ounces of the spirit for twenty-four hours, then distil off the spirit, mix the product with the solution of ammonia, and add sufficient rectified spirit to make one pint.

Dose.—½ to 1 fluid drachm.

SPIRITUS ARMORACIÆ COMPOSITUS.

COMPOUND SPIRIT OF HORSERADISH.

Take of

Horseradish Root, scraped Bitter-Orange Peel, cut small and bruised	of each 20 ounces
Nutmeg, bruised	½ ounce
Proof Spirit	1 gallon
Water	2 pints

Mix, and distil a gallon with a moderate heat.

Dose.—1 to 2 fluid drachms.

SPIRITUS CAJUPUTI.

SPIRIT OF CAJUPUT.*

Take of

Oil of Cajuput	1 fluid ounce
Rectified Spirit	49 fluid ounces

Dissolve.

Dose.—½ to 1 fluid drachm.

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* This is one-fifth the strength of the preparation of the same name in the *Brit. Pharm.* 1864.

SPIRITUS CAMPHORÆ.

Spirit of Camphor.

Synonym.—Tinctura Camphoræ, *Edin.*, *Dubl.*

Take of

Camphor	1 ounce
Rectified Spirit	9 fluid ounces

Dissolve.

Dose.—10 to 30 minims.

SPIRITUS CHLOROFORMI.

Spirit of Chloroform.

Take of

Chloroform	1 fluid ounce
Rectified Spirit	19 fluid ounces

Dissolve.

Test.—Specific gravity 0·871.

Dose.—20 to 60 minims.

SPIRITUS JUNIPERI.

Spirit of Juniper.*

Take of

Oil of Juniper	1 fluid ounce
Rectified Spirit	49 fluid ounces

Dissolve.

Dose.—½ to 1 fluid drachm.

Preparation.—Mistura Creasoti.

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* This is one-fifth the strength of the preparation of the same name in the *Brit. Pharm.* 1864.

SPIRITUS LAVANDULÆ.

SPIRIT OF LAVENDER.*

Take of

Oil of Lavender	1 fluid ounce
Rectified Spirit	49 fluid ounces

Dissolve.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

SPIRITUS MENTHÆ PIPERITÆ.

SPIRIT OF PEPPERMINT.*

Take of

Oil of Peppermint	1 fluid ounce
Rectified Spirit	49 fluid ounces

Dissolve.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

SPIRITUS MYRISTICÆ.

SPIRIT OF NUTMEG.*

Take of

Volatile Oil of Nutmeg . . .	1 fluid ounce
Rectified Spirit	49 fluid ounces

Dissolve.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

Preparation.—Mistura Ferri composita.

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* This is one-fifth the strength of the preparation of the same name in the *Brit. Pharm.* 1864.

SPIRITUS RECTIFICATUS.

Rectified Spirit.

Alcohol, $C_4H_6O_2$ or $\mathbf{C_2H_6O}$, with sixteen per cent. of water; obtained by the distillation of fermented saccharine fluids.

Characters and Tests.—Colourless, transparent, very mobile and inflammable, of a peculiar pleasant odour, and a strong spirituous burning taste. Burns with a blue flame without smoke. Specific gravity 0·838. Remains clear when diluted with distilled water. Odour and taste purely alcoholic. Four fluid ounces with thirty grain-measures of the volumetric solution of nitrate of silver exposed for twenty-four hours to bright light, and then decanted from the black powder which has formed, undergoes no further change when again exposed to light with more of the test.

Tinctures made with Rectified Spirit.

Tinctura Aconiti
,, Arnicæ
,, Assafœtidæ
,, Benzoini composita
,, Cannabis Indicæ
,, Capsici
,, Castorei
,, Cubebæ
,, Ferri Perchloridi
,, ,, Acetatis
,, Iodi
Tinctura Kino
,, Lavandulæ composita
,, Myrrhæ
,, Nucis Vomicæ
,, Opii Ammoniata
,, Pyrethri
,, Tolutana
,, Veratri Viridis
,, Zingiberis
,, ,, fortior

SPIRITUS ROSMARINI.

Spirit of Rosemary.*

Take of

Oil of Rosemary	1 fluid ounce
Rectified Spirit	49 fluid ounces

Dissolve.

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* This is one-fifth the strength of the preparation of the same name in the *Brit. Pharm.* 1864.

SPIRITUS TENUIOR.

Proof Spirit.

Take of

Rectified Spirit	5 pints
Distilled Water	3 pints

Mix.

Test.—Specific gravity 0·920.

Tinctures made with Proof Spirit.

- Tinctura Aloes
- ,, Aurantii
- ,, Belladonnæ
- ,, Buchu
- ,, Calumbæ
- ,, Camphoræ composita
- ,, Cantharidis
- ,, Cardamomi composita
- ,, Cascarillæ
- ,, Catechu
- ,, Chiratæ
- ,, Cinchonæ composita
- ,, ,, Flavæ
- ,, Cinnamomi
- ,, Cocci
- ,, Colchici Seminis
- ,, Conii
- ,, Croci
- ,, Digitalis
- Tinctura Ergotæ
- ,, Gallæ
- ,, Gentianæ composita
- ,, Hyoscyami
- ,, Jalapæ
- ,, Krameriæ
- ,, Limonis
- ,, Lobeliæ
- ,, Lupuli
- ,, Opii
- ,, Quassiæ
- ,, Quiniæ composita
- ,, Rhei
- ,, Sabinæ
- ,, Scillæ
- ,, Senegæ
- ,, Sennæ
- ,, Serpentariæ
- ,, Stramonii
- ,, Sumbul
- ,, Valerianæ

SPIRITUS VINI GALLICI.

Spirit of French Wine.

Synonym.—Brandy.

Spirit distilled from French wine. It has a peculiar flavour, and a light sherry colour derived from the casks in which it has been kept.

Preparation.—Mistura Spiritus Vini Gallici.

STRAMONII FOLIA.

Stramonium Leaves.

The dried leaves of Datura Stramonium *Linn.*, Thorn Apple. *Woodv. Med. Bot.*, plate 124.—Collected from plants in flower, cultivated in Britain.

Characters.—Large, ovate, sinuous, deeply cut; of a heavy odour, which is strongest while they are drying, and of a mawkish faintly bitter nauseous taste.

STRAMONII SEMINA.

Stramonium Seeds.

The ripe seeds of Datura Stramonium *Linn.*

Characters.—Brownish-black, reniform, flat, rough, in taste feebly bitter and mawkish; inodorous unless bruised, when they emit a peculiar heavy smell.

Preparations.

Extractum Stramonii	
Tinctura Stramonii .	54½ grains to 1 fluid ounce

STRYCHNIA.

STRYCHNIA.

$C_{42}H_{22}N_2O_4$ or $C_{21}H_{22}N_2O_2$.

An alkaloid prepared from Nux Vomica.

It may be obtained by the following process:

Take of

Nux Vomica	1 pound
Acetate of Lead	180 grains
Solution of Ammonia	a sufficiency
Rectified Spirit	a sufficiency
Distilled Water	a sufficiency

Subject the nux vomica for two hours to steam in any convenient vessel; chop or slice it; dry it in a water-bath or hot-air chamber, and immediately grind it in a coffee mill. Digest the powder at a gentle heat for twelve hours with two pints of the spirit and one of the water, strain through linen, express strongly and repeat the process twice. Distil off the spirit from the mixed fluid, evaporate the watery residue to about sixteen ounces and filter when cold. Add now the acetate of lead, previously dissolved in distilled water, so long as it occasions any precipitate; filter; wash the precipitate with ten ounces of cold water, adding the washings to the filtrate; evaporate the clear fluid to eight ounces, and when it has cooled add the ammonia in slight excess, stirring thoroughly. Let the mixture stand at the ordinary temperature for twelve hours; collect the precipitate on a filter, wash it once with a few ounces of cold distilled water, dry it in a water-bath or hot air chamber. and boil it with successive portions of rectified spirit, till the fluid scarcely tastes bitter. Distil off most of the spirit, evaporate the residue to the bulk of about half an ounce, and set it aside to cool. Cautiously pour off tho yellowish mother liquor (which contains the brucia of the seeds) from the white crust of strychnia which adheres to the vessel. Throw the crust on a paper filter, wash it with a mixture of two parts of rectified spirit and one of water, till the washings cease to become red on the addition of nitric acid ; finally, dissolve it by boili it with an ounce of rectified spirit, and set it aside to crystalli More crystals may be obtained by evaporating the moth liquor.

Characters and Tests.—In right square octahedrons or prism colourless and inodorous ; sparingly soluble in water, but co municating to it its intensely bitter taste ; soluble in boili rectified spirit, and in chloroform, but not in absolute alcoh or in ether. Pure sulphuric acid forms with it a colourle solution, which on the addition of bichromate of potash acquir an intensely violet hue, speedily passing through red to yello Not coloured by nitric acid ; leaves no ash when burned wi free access of air. A very active poison.

Dose.—$\frac{1}{30}$ to $\frac{1}{12}$ grain.

Preparation.

Liquor Strychniæ . . 4 grains in 1 fluid ounce

STYRAX PRÆPARATUS.

PREPARED STORAX.

A balsam obtained from the bark of Liquidambar or entale, *Miller's Dict. Pharm. Journ.* vol. xvi. page 46 plate. Purified by means of rectified spirit and strainin

Characters.—A semitransparent brownish-yellow semi-flui resin, of the consistence of thick honey, with a strong agre able fragrance and aromatic bland taste. Heated in a test tub on the vapour-bath, it becomes more liquid but gives off n moisture ; boiled with solution of bichromate of potash an sulphuric acid it evolves the odour of hydride of benzoyle.

Preparation.

Tinctura Benzoini composita . 33 grains to 1 fluid ounc

SUCCUS CONII.

JUICE OF HEMLOCK.

Take of

Fresh Leaves of Hemlock	7 pounds
Rectified Spirit	a sufficiency

Bruise the hemlock in a stone mortar, press out the juice, and to every three measures of juice add one of the spirit. Set aside for seven days, and filter. Keep it in a cool place.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

SUCCUS SCOPARII.

JUICE OF BROOM.

Take of

Fresh Broom Tops	7 pounds
Rectified Spirit	a sufficiency

Bruise the broom tops in a stone mortar, press out the juice, and to every three measures of juice add one of the spirit. Set aside for seven days, and filter. Keep in a cool place.

Dose.—1 to 2 fluid drachms.

SUCCUS TARAXACI.

JUICE OF DANDELION.

Take of

Fresh Dandelion Root	7 pounds
Rectified Spirit	a sufficiency

Bruise the dandelion root in a stone mortar, press out the juice, and to every three measures of juice add one of the spirit. Set aside for seven days, and filter. Keep it in a cool place.

Dose.—1 to 2 fluid drachms.

SULPHUR PRÆCIPITATUM.

Precipitated Sulphur.

Take of

Sublimed Sulphur	5 ounces
Slaked Lime	3 ounces
Hydrochloric Acid	8 fluid ounces, or a sufficiency
Distilled Water	a sufficiency

Heat the sulphur and lime, previously well mixed, in a pint of the water, stirring diligently with a wooden spatula; boil for fifteen minutes, and filter. Boil the residue again in half a pint of the water, and filter. Let the united filtrates cool, dilute with two pints of the water, and, in an open place or under a chimney, add in successive quantities the hydrochloric acid previously diluted with a pint of the water, until effervescence ceases and the mixture acquires an acid reaction. Allow the precipitate to settle, decant off the supernatant liquid, pour on fresh distilled water, and continue the purification by affusion of distilled water and subsidence, until the fluid ceases to have an acid reaction and to precipitate with oxalate of ammonia. Collect the precipitated sulphur on a calico filter, wash it once with distilled water, and dry it at a temperature not exceeding 120°.

Characters and Tests.—A greyish-yellow soft powder free from grittiness, and from the smell of sulphuretted hydrogen. When heated in an open vessel, it burns with a blue flame and the evolution of sulphurous acid. Entirely volatilised by heat. Under the microscope it is seen to consist of opaque globules without any admixture of crystalline matter. Otherwise it corresponds with sublimed sulphur.

Dose.—20 to 60 grains.

SULPHUR SUBLIMATUM.

SUBLIMED SULPHUR.

Sulphur, prepared from crude or rough sulphur by sublimation.

Characters and Tests.—A slightly gritty powder of a fine greenish-yellow colour, without taste and without odour, unless heated; burning in open vessels with a blue flame and the evolution of sulphurous acid. Entirely volatilised by heat; does not redden moistened litmus paper. Solution of ammonia, agitated with it, and filtered, does not on evaporation leave any residue.

Dose.—20 to 60 grains.

Preparations.

Confectio Sulphuris	4 parts in 10 nearly
Emplastrum Ammoniaci cum Hydrargyro	
„ Hydrargyri	
Sulphur Præcipitatum	
Unguentum Sulphuris	1 part in 5

SULPHURIS IODIDUM.

IODIDE OF SULPHUR.

Take of

Iodine	4 ounces
Sublimed Sulphur	1 ounce

Rub them together in a wedgwood mortar until they are thoroughly mixed. Put the mixture into a flask, close the orifice loosely, and apply a gentle heat so that the colour of the mass shall become gradually darkened. When the colour has become uniformly dark throughout, increase the heat so as to produce liquefaction. Then incline the flask in different directions, in order to return into the liquid any portion of the iodine which may have been condensed on the inner surface of the vessel. . Lastly, withdraw the heat, and when the liquid has congealed, remove the mass by breaking the flask, reduce it to pieces, and keep these in a well-stopped bottle.

Characters and Tests.—A greyish black solid substance, with a radiated crystalline appearance. It resembles iodine in smell, and in the property of staining the cuticle when applied to it. Soluble in about sixty parts of glycerine; insoluble in water, but decomposed when boiled with it. If 100 grains be thoroughly boiled with water the iodine will pass off in vapour and about 20 grains of sulphur will remain.

Preparation.

Unguentum Sulphuris Iodidi . 30 grains to 1 ounce

SUMBUL RADIX.

Sumbul Root.

The dried transverse sections of the root of a plant the botanical history of which is unknown. Imported from Russia and also from India.

Characters.—The pieces are nearly round, from 2½ to 5 inches in diameter, and from ¾ to 1½ inch in thickness. They are covered on the outer edge with a dusky brown rough bark, frequently beset with short bristly fibres. The interior is porous, and consists of irregular, easily separated fibres. It has a strong odour, resembling that of musk. The taste is at first sweetish, becoming after a time bitterish and balsamic. That brought from India differs from the Russian, being closer in texture, more dense and firm, and of a reddish tint.

Preparation.

Tinctura Sumbul . . 54½ grains to 1 fluid ounce

SUPPOSITORIA ACIDI TANNICI.

Tannic Acid Suppositories.

Take of

Tannic Acid	36 grains
Benzoated Lard	44 grains
White Wax	10 grains
Oil of Theobroma	90 grains

Melt the wax and oil of theobroma with a gentle heat, then add the tannic acid and benzoated lard previously rubbed together in a mortar, and mix all the ingredients thoroughly. Pour the mixture while it is fluid into suitable moulds of the capacity of fifteen grains; or the fluid mixture may be allowed to cool, and then be divided into twelve equal parts, each of which shall be made into a conical or other convenient form for a suppository.

SUPPOSITORIA HYDRARGYRI.

Mercurial Suppositories.

Take of

Ointment of Mercury	60 grains
Benzoated Lard White Wax } of each	20 grains
Oil of Theobroma	80 grains

Melt the benzoated lard, wax, and oil of theobroma with a gentle heat, then add the ointment of mercury, and having mixed all the ingredients thoroughly, without applying more heat, immediately pour the mixture, before it has congealed, into suitable moulds of the capacity of fifteen grains; or the fluid mixture may be allowed to cool, and then be divided into twelve equal parts, each of which shall be made into a conical or other convenient form for a suppository.

SUPPOSITORIA MORPHIÆ.

MORPHIA SUPPOSITORIES.

Take of

Hydrochlorate of Morphia	6 grains
Benzoated Lard	64 grains
White Wax	20 grains
Oil of Theobroma	90 grains

Melt the wax and oil of theobroma with a gentle heat, then add the hydrochlorate of morphia and benzoated lard previously rubbed together in a mortar, and mix all the ingredients thoroughly. Pour the mixture while it is fluid into suitable moulds of the capacity of fifteen grains; or the fluid mixture may be allowed to cool, and then be divided into twelve equal parts, each of which shall be made into a conical or other convenient form for a suppository, which will contain half a grain of hydrochlorate of morphia.

SUPPOSITORIA PLUMBI COMPOSITA.

COMPOUND LEAD SUPPOSITORIES.

Take of

Acetate of Lead	36 grains
Opium, in powder	12 grains
Benzoated Lard	42 grains
White Wax	10 grains
Oil of Theobroma	80 grains

Melt the wax and oil of theobroma with a gentle heat, then add the other ingredients previously rubbed together in a mortar, and having mixed them thoroughly, pour the mixture while it is fluid into suitable moulds of the capacity of fifteen grains; or the fluid mixture may be allowed to cool, and then be divided into twelve equal parts, each of which shall be made into a conical or other convenient form for a suppository.

SYRUPUS.

Syrup.

Take of

Refined Sugar	5 pounds
Distilled Water	2 pints

Dissolve the sugar in the water with the aid of heat; and add, after cooling, as much distilled water as may be necessary to make the weight of the product seven pounds and a half. The specific gravity should be 1·330.

Preparations.—Mistura Cretæ; Mistura Creasoti; Pilula Cambogiæ composita; Syrupus Aurantii; Syrupus Zingiberis.

SYRUPUS AURANTII.

Syrup of Orange Peel.

Take of

Tincture of Orange Peel	1 fluid ounce
Syrup	7 fluid ounces

Mix.

Dose.—1 fluid drachm.

Preparation.—Confectio Sulphuris.

SYRUPUS AURANTII FLORIS.

Syrup of Orange Flower.

Take of

Orange-Flower Water	8 fluid ounces
Refined Sugar	3 pounds
Distilled Water	16 fluid ounces, or a sufficiency

Dissolve the sugar in the distilled water by means of heat; strain, and when nearly cold add the orange-flower water, with a sufficient quantity of distilled water, if necessary, to make the product four pounds and a half. The specific gravity should be 1·330.

Dose.—1 fluid drachm.

SYRUPUS FERRI IODIDI.

SYRUP OF IODIDE OF IRON.

Take of

Fine Iron Wire	1 ounce
Iodine	2 ounces
Refined Sugar	28 ounces
Distilled Water	13 fluid ounces

Prepare a syrup by dissolving the sugar in ten ounces of the water with the aid of heat. Digest the iodine and the iron wire in a flask, at a gentle heat, with the remaining three ounces of the water, till the froth becomes white; then filter the liquid while still hot into the syrup, and mix. The product should weigh two pounds eleven ounces, and should have the specific gravity 1·385.

It contains 4·3 grains of iodide of iron in 1 fluid drachm.

Dose.—½ to 1 fluid drachm.

SYRUPUS FERRI PHOSPHATIS.

SYRUP OF PHOSPHATE OF IRON.

Take of

Granulated Sulphate of Iron	224 grains
Phosphate of Soda	200 grains
Acetate of Soda	74 grains
Diluted Phosphoric Acid	5½ fluid ounces
Refined Sugar	8 ounces
Distilled Water	8 fluid ounces

Dissolve the sulphate of iron in four ounces of the water, and the phosphate and acetate of soda in the remainder; mix the two solutions, and, after careful stirring, transfer the precipitate to a calico filter, and wash it with distilled water, till the filtrate ceases to be affected by chloride of barium. Then press the precipitate strongly between folds of bibulous paper, and add to it the diluted phosphoric acid. As soon as the precipitate is dissolved, filter the solution, add the sugar, and dissolve without heat. The product should measure exactly twelve fluid ounces.

It contains 1 grain of phosphate of iron, $3FeO,PO_5$ or $Fe_3P_2O_8$, in 1 fluid drachm.

Dose.—1 fluid drachm.

SYRUPUS HEMIDESMI.

Syrup of Hemidesmus.

Take of

Hemidesmus Root, bruised	4 ounces
Refined Sugar	28 ounces
Boiling Distilled Water	1 pint

Infuse the hemidesmus in the water, in a covered vessel, for four hours, and strain. Set it by till the sediment subsides; then decant the clear liquor, add the sugar, and dissolve by means of a gentle heat. The product should weigh two pounds ten ounces, and should have the specific gravity 1·335.

Dose.—1 fluid drachm.

SYRUPUS LIMONIS.

Syrup of Lemons.

Take of

Fresh Lemon Peel	2 ounces
Lemon Juice, strained	1 pint
Refined Sugar	$2\frac{1}{4}$ pounds

Heat the lemon juice to the boiling point, and, having put it into a covered vessel with the lemon peel, let them stand until they are cold, then filter and dissolve the sugar in the filtered liquid with a gentle heat. The product should weigh three pounds and a half, and should have the specific gravity 1·34.

Dose.—1 fluid drachm.

SYRUPUS MORI.

Syrup of Mulberries.

Take of

Mulberry Juice	1 pint
Refined Sugar	2 pounds
Rectified Spirit	2½ fluid ounces

Heat the mulberry juice to the boiling point, and when it has cooled filter it. Dissolve the sugar in the filtered liquid with a gentle heat, and add the spirit. The product should weigh three pounds six ounces, and should have the specific gravity 1·33.

Dose.—1 fluid drachm.

SYRUPUS PAPAVERIS.

Syrup of Poppies.

Take of

Poppy Capsules, dried, freed from the seeds and coarsely powdered . .	36 ounces
Rectified Spirit	16 fluid ounces
Refined Sugar	4 pounds
Boiling Distilled Water . . .	a sufficiency

Mix the poppy capsules with four pints of the water, and infuse for twenty-four hours, stirring them frequently; then pack them in a percolator, and adding more of the water allow the liquor slowly to pass until about two gallons have been collected or the poppies are exhausted. Evaporate the liquor by a water-bath until it is reduced to three pints. When quite cold, add the spirit, let the mixture stand for twelve hours, and filter. Distil off the spirit, evaporate the remaining liquor to two pints, and then add the sugar. The product should weigh six pounds and a half, and should have the specific gravity 1·320.

Dose.—1 fluid drachm.

SYRUPUS RHAMNI.

SYRUP OF BUCKTHORN.

Take of

Buckthorn Juice		4 pints
Ginger, sliced	of each	¾ ounce
Pimento, bruised		
Refined Sugar		5 pounds, or a sufficiency
Rectified Spirit		6 fluid ounces

Evaporate the juice to two pints and a half, add the ginger and pimento, digest at a gentle heat for four hours, and strain. When cold add the spirit, let the mixture stand for two days, then decant off the clear liquor, and in this dissolve the sugar with a gentle heat, so as to make the specific gravity 1·32.

Dose.—1 fluid drachm.

SYRUPUS RHEI.

SYRUP OF RHUBARB.

Take of

Rhubarb Root, in coarse powder	of each	2 ounces
Coriander Fruit, in coarse powder		
Refined Sugar		24 ounces
Rectified Spirit		8 fluid ounces
Distilled Water		24 fluid ounces

Mix the rhubarb and coriander; pack them in a percolator; pass the spirit and water, previously mixed, slowly through them; evaporate the liquid that has thus passed until it is reduced to thirteen fluid ounces and in this, after it has been filtered, dissolve the sugar with a gentle heat.

Dose.—1 to 4 fluid drachms.

SYRUPUS RHŒADOS.

Syrup of Red Poppy.

Take of

Fresh Red Poppy Petals	13 ounces
Refined Sugar	2¼ pounds
Distilled Water	1 pint, or a sufficiency
Rectified Spirit	2½ fluid ounces

Add the petals gradually to the water heated in a water-bath, frequently stirring, and afterwards, the vessel being removed, infuse for twelve hours. Then press out the liquor, strain, add the sugar and dissolve by means of heat. When nearly cold, add the spirit, and as much distilled water as may be necessary to make up for loss in the process, so that the product shall weigh three pounds ten ounces. It should have the specific gravity 1·330.

Dose.—1 fluid drachm.

SYRUPUS ROSÆ GALLICÆ.

Syrup of Red Roses.

Take of

Dried Red Rose Petals	2 ounces
Refined Sugar	30 ounces
Boiling Distilled Water	1 pint

Infuse the petals in the water for two hours, squeeze through calico, heat the liquor to the boiling point, and filter. Dissolve the sugar in the liquor by means of heat. The product should weigh two pounds fourteen ounces, and should have the specific gravity 1·335.

Dose.—1 fluid drachm.

SYRUPUS SCILLÆ.

Syrup of Squill.

Take of

Vinegar of Squill	1 pint
Refined Sugar	2½ pounds

Dissolve with the aid of heat.

Dose.—½ to 1 fluid drachm.

SYRUPUS SENNÆ.

Syrup of Senna.

Take of

Senna, broken small	16 ounces
Oil of Coriander	3 minims
Refined Sugar	24 ounces
Distilled Water	5 pints, or a sufficiency
Rectified Spirit	2 fluid ounces

Digest the senna in seventy ounces of the water for twenty-four hours at a temperature of 120°; press out the liquor and strain it. Digest the marc in thirty ounces of the water for six hours at the same temperature; again press out the liquor and strain it. Evaporate the mixed liquors in a water-bath to ten fluid ounces, and, when cold, add the rectified spirit, previously mixed with the oil of coriander. Clarify by filtration, and wash what remains on the filter with distilled water, until the washings make up the filtrate to sixteen fluid ounces. Then add the sugar, and dissolve by means of a gentle heat. The product should weigh two pounds ten ounces, and should have the specific gravity 1·310.

Dose.—1 to 4 fluid drachms.

SYRUPUS TOLUTANUS.

Syrup of Tolu.

Take of

Balsam of Tolu	1¼ ounce
Refined Sugar	2 pounds
Distilled Water	1 pint, or a sufficiency

Boil the balsam in the water for half an hour in a lightly covered vessel, stirring occasionally. Then remove from the fire, and add distilled water, if necessary, so that the liquid shall measure sixteen ounces. Filter the solution when cold, add the sugar, and dissolve with the aid of a steam or water-bath. The product should weigh three pounds, and should have the specific gravity 1·330.

Dose.—1 fluid drachm.

SYRUPUS ZINGIBERIS.

SYRUP OF GINGER.

Take of

Strong Tincture of Ginger . .	6 fluid drachms
Syrup	19 fluid ounces

Mix with agitation.

Dose.—1 fluid drachm.

TABACI FOLIA.

LEAF TOBACCO.

The dried leaves of Virginian Tobacco, Nicotian Tabacum *Linn.* *Steph. and Church. Med. Bot.*, plate 37 Cultivated in America.

Characters.—Large mottled-brown ovate or lanceolate acu minate leaves, bearing numerous short glandular hairs; havin a peculiar heavy odour and nauseous-bitter acrid taste; yield ing, when distilled with solution of potash, an alkaline fluid which has the peculiar odour of nicotia, and precipitates wit perchloride of platinum and tincture of galls. Not manufac tured.

Preparation.

Enema Tabaci . . 20 grains to 8 fluid ounces

TAMARINDUS.

TAMARIND.

The preserved pulp of the fruit of Tamarindus indic *Linn.* *Woodv. Med. Bot.*, plate 166. Imported from th West Indies.

Characters and Test.—A brown sweetish subacid pulp pre served in sugar, containing strong fibres, and brown shinin seeds each enclosed in a membranous coat. A piece of brigh iron, left in contact with the pulp for an hour, does not exhibi any deposit of copper.

Preparation.—Confectio Sennæ, 9 parts to 75.

TARAXACI RADIX.

DANDELION ROOT.

The fresh and dried roots of Taraxacum Dens Leonis, *DC., Woodv. Med. Bot. (Leontodon Taraxacum)*, plate 3. Gathered between September and February, from meadows and pastures in Britain.

Characters and Tests.—Tap-shaped roots, smooth and dark-brown externally, white within, easily broken, and giving out an inodorous bitter milky juice, which becomes pale-brown by exposure. Not wrinkled or pale-coloured externally; juice not watery; any adherent leaves runcinate and quite smooth.

Preparations.

Decoctum Taraxaci (dried)	. 1 ounce to 1 pint
Extractum Taraxaci (fresh)	
Succus Taraxaci (fresh)	

TEREBINTHINA CANADENSIS.

CANADA BALSAM.

The turpentine obtained by incision from the stem of Abies balsamea *Aiton, Hort. Kew.* Balm of Gilead Fir. *Lambert, Pinus (Pinus balsamea)*, plate 31. From Canada.

Characters.—A pale-yellow ductile oleo-resin, of the consistence of thin honey, with a peculiar agreeable odour, and a slightly bitter feebly acrid taste; by exposure drying very slowly into a transparent adhesive varnish; solidifying when mixed with a sixth of its weight of magnesia.

Dose.—20 to 30 grains.

Preparations.

Charta Epispastica | Collodium Flexile

THERIACA.

TREACLE.

Synonym.—SACCHARI FÆX, *Lond.*

The uncrystallised residue of the refining of sugar.

Characters.—A thick brown fermentable syrup, very sweet not crystallising by rest or evaporation. Specific gravity abou 1·40.

Test.—Nearly free from empyreumatic odour or flavour.

Preparations.

Pilula Assafœtidæ composita
,, Conii composita
,, Ipecacuanhæ et Scilla
Pilula Rhei composita
,, Scillæ composita

THUS AMERICANUM.

COMMON FRANKINCENSE.

The concrete turpentine of Pinus Tæda, *Linn.*, th Frankincense pine, and Pinus palustris, *Miller's Dict.* the Swamp pine, *Lambert, Pinus,* plates 16, 17, and 20 From the Southern States of North America.

Characters.—A softish bright-yellow opaque solid, resinou but tough, having the odour of American turpentine.

Preparation.—Emplastrum Picis.

TINCTURA ACONITI.

TINCTURE OF ACONITE.*

Take of

Aconite Root, in coarse powder . .	2½ ounces
Rectified Spirit	1 pint

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* This Tincture has one-fourth of the strength of Tinctura Aconiti *Dubl.*, and one-third of the strength of Tinctura Aconiti, *Lond.*

Macerate the aconite root for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient rectified spirit to make one pint.

Dose.—5 to 15 minims.

TINCTURA ALOES.

Tincture of Aloes.

Take of

Socotrine Aloes, in coarse powder . .	½ ounce
Extract of Liquorice	1½ ounce
Proof Spirit	a sufficiency

Macerate the aloes and extract of liquorice in fifteen fluid ounces of the spirit for seven days, in a closed vessel, with occasional agitation, then filter, and add sufficient proof spirit to make one pint.

Dose.—1 to 2 fluid drachms.

TINCTURA ARNICÆ.

Tincture of Arnica.

Take of

Arnica Root, in coarse powder . . .	1 ounce
Rectified Spirit	1 pint

Macerate the arnica for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient rectified spirit to make one pint.

Dose.—1 to 2 fluid drachms.

TINCTURA ASSAFŒTIDÆ.

TINCTURE OF ASSAFŒTIDA.

Take of

Assafœtida, in small fragments	2½ ounces
Rectified Spirit	a sufficiency

Macerate the assafœtida in fifteen fluid ounces of the spirit for seven days in a closed vessel, with occasional agitation, then filter, and add sufficient rectified spirit to make one pint.

Dose.—½ to 1 fluid drachm.

TINCTURA AURANTII.

TINCTURE OF ORANGE PEEL.

Take of

Bitter-Orange Peel, cut small and bruised	2 ounces
Proof Spirit	1 pint

Macerate for seven days in a closed vessel, with occasional agitation, then strain, press, and filter, and add sufficient proof spirit to make one pint.

Dose.—1 to 2 fluid drachms.

Preparations.

Mistura Ferri Aromatica	1 volume in 32
Syrupus Aurantii	1 volume in 8
Tinctura Quiniæ	

TINCTURA BELLADONNÆ.

TINCTURE OF BELLADONNA.*

Take of

Belladonna Leaves, in coarse powder	1 ounce
Proof Spirit	1 pint

Macerate the leaves for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

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* This tincture has about half the strength of Tinctura Belladonnæ, *Lond.* and *Dubl.*

Dose.—5 to 20 minims.

TINCTURA BENZOINI COMPOSITA.

COMPOUND TINCTURE OF BENZOIN.

Take of

Benzoin, in coarse powder	2 ounces
Prepared Storax	1½ ounce
Balsam of Tolu	½ ounce
Socotrine Aloes	160 grains
Rectified Spirit	1 pint

Macerate for seven days in a closed vessel, with occasional agitation, then filter, and add sufficient rectified spirit, if required, to make one pint.

Dose.—½ to 1 fluid drachm.

TINCTURA BUCHU.

TINCTURE OF BUCHU.

Take of

Buchu Leaves, in coarse powder	2½ ounces
Proof Spirit	1 pint

Macerate the buchu for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—1 to 2 fluid drachms.

TINCTURA CALUMBÆ.

Tincture of Calumba.

Take of

Calumba Root, cut small . . .	$2\frac{1}{2}$ ounces
Proof Spirit	1 pint

Macerate the calumba for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—$\frac{1}{2}$ to 2 fluid drachms.

TINCTURA CAMPHORÆ COMPOSITA.

Compound Tincture of Camphor.

Synonyms.—Tinctura Camphoræ cum Opio, 1864.
Tinctura Opii Camphorata, *Edin. Dubl.*

Take of

Opium, in coarse powder Benzoic Acid . .	of each . 40 grains
Camphor	30 grains
Oil of Anise	$\frac{1}{2}$ fluid drachm
Proof Spirit	1 pint

Macerate for seven days in a closed vessel, with occasional agitation, then filter, and add sufficient proof spirit to make one pint.

Dose.—15 minims to 1 fluid drachm.

TINCTURA CANNABIS INDICÆ.

TINCTURE OF INDIAN HEMP.

Take of

Extract of Indian Hemp	1 ounce
Rectified Spirit	1 pint

Dissolve the extract of hemp in the spirit.

Dose.—5 to 20 minims.

TINCTURA CANTHARIDIS.

TINCTURE OF CANTHARIDES.

Take of

Cantharides, in coarse powder . . .	¼ ounce
Proof Spirit	1 pint

Macerate for seven days in a closed vessel, with occasional agitation, strain, press, filter, and add sufficient proof spirit to make one pint.

Dose.—5 to 20 minims.

TINCTURA CAPSICI.

TINCTURE OF CAPSICUM.

Take of

Capsicum Fruit, bruised	¾ ounce
Rectified Spirit	1 pint

Macerate the capsicum for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient rectified spirit to make one pint.

Dose.—10 to 20 minims.

TINCTURA CARDAMOMI COMPOSITA.

COMPOUND TINCTURE OF CARDAMOMS.

Take of

Cardamom Seeds, freed from the pericarps and bruised	$\frac{1}{4}$ ounce
Caraway Fruit, bruised	$\frac{1}{4}$ ounce
Raisins, freed from their seeds	2 ounces
Cinnamon Bark, bruised	$\frac{1}{2}$ ounce
Cochineal, in powder	60 grains
Proof Spirit	1 pint

Macerate the solid ingredients for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—$\frac{1}{2}$ to 2 fluid drachms.

Preparations.

Decoctum Aloes compositum	1 volume in $3\frac{3}{4}$
Mistura Ferri Aromatica	3 volumes in 16
,, Sennæ composita	1 volume in 16
Tinctura Chloroformi composita	1 volume in 2

TINCTURA CASCARILLÆ.

TINCTURE OF CASCARILLA.

Take of

Cascarilla Bark, bruised	$2\frac{1}{2}$ ounces
Proof Spirit	1 pint

Macerate the cascarilla for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—½ to 2 fluid drachms.

TINCTURA CASTOREI.

Tincture of Castor.

Take of

Castor in coarse powder	1 ounce
Rectified Spirit	1 pint

Macerate for seven days in a closed vessel, with occasional agitation; strain, press, filter, and add sufficient rectified spirit to make one pint.

Dose.—½ to 1 fluid drachm.

TINCTURA CATECHU.

Tincture of Catechu.

Take of

Pale Catechu, in coarse powder	2½ ounces
Cinnamon Bark, bruised	1 ounce
Proof Spirit	1 pint

Macerate for seven days in a closed vessel, with occasional agitation; strain, press, filter, and add sufficient proof spirit to make one pint.

Dose.—½ to 2 fluid drachms.

TINCTURA CHIRATÆ.

Tincture of Chiretta.

Take of

Chiretta, cut small and bruised	2½ ounces
Proof Spirit	1 pint

Macerate the chiretta for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally;

then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of the spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—$\frac{1}{2}$ to 2 fluid drachms.

TINCTURA CHLOROFORMI COMPOSITA.

Compound Tincture of Chloroform.

Take of

Chloroform	2 fluid ounces
Rectified Spirit	8 fluid ounces
Compound Tincture of Cardamoms	10 fluid ounces

Mix.

Dose.—20 to 60 minims.

TINCTURA CINCHONÆ COMPOSITA.

Compound Tincture of Cinchona.

Take of

Pale Cinchona Bark, in moderately fine powder	2 ounces
Bitter-Orange Peel, cut small, and bruised	1 ounce
Serpentary Root, bruised . . .	$\frac{1}{2}$ ounce
Saffron	60 grains
Cochineal, in powder	30 grains
Proof Spirit	1 pint

Macerate the cinchona bark, and the other solid ingredients, for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—½ to 2 fluid drachms.

TINCTURA CINCHONÆ FLAVÆ.

TINCTURE OF YELLOW CINCHONA.

Take of

Yellow Cinchona Bark, in moderately fine powder	4 ounces
Proof Spirit	1 pint

Macerate the cinchona bark for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—½ to 2 fluid drachms.

TINCTURA CINNAMOMI.

TINCTURE OF CINNAMON.

Take of

Cinnamon Bark, in coarse powder . .	2½ ounces
Proof Spirit	1 pint

Macerate the cinnamon for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—½ to 2 fluid drachms.

TINCTURA COCCI.

Tincture of Cochineal.

Take of

Cochineal, in powder	2½ ounces
Proof Spirit	1 pint

Macerate for seven days in a closed vessel, with occasional agitation; strain, press, filter, and add sufficient proof spirit to make one pint.

TINCTURA COLCHICI SEMINUM.

Tincture of Colchicum Seeds.

Take of

Colchicum Seeds, bruised	2½ ounces
Proof Spirit	1 pint

Macerate the colchicum for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—10 to 30 minims.

TINCTURA CONII.

Tincture of Hemlock.

Synonym.—Tinctura Conii Fructus, 1864.

Take of

Hemlock Fruit, bruised	2½ ounces
Proof Spirit	1 pint

Macerate the hemlock fruit for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—20 to 60 minims.

TINCTURA CROCI.

TINCTURE OF SAFFRON.

Take of

Saffron	1 ounce
Proof Spirit	1 pint

Macerate the saffron for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

TINCTURA CUBEBÆ.

TINCTURE OF CUBEBS.

Take of

Cubebs, in powder	2½ ounces
Rectified Spirit	1 pint

Macerate the cubebs for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient rectified spirit to make one pint.

Dose.—½ to 2 fluid drachms.

TINCTURA DIGITALIS.

TINCTURE OF DIGITALIS.

Take of

Digitalis Leaves, in coarse powder . .	2½ ounces
Proof Spirit	1 pint

Macerate the digitalis for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—10 to 30 minims.

TINCTURA ERGOTÆ.

TINCTURE OF ERGOT.

Take of

Ergot, in coarse powder	5 ounces
Proof Spirit	1 pint

Macerate the ergot for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—10 minims to 1 fluid drachm.

TINCTURA FERRI ACETATIS.

TINCTURE OF ACETATE OF IRON.

Take of

Solution of Persulphate of Iron .	2½ fluid ounces
Acetate of Potash	2 ounces
Rectified Spirit	a sufficiency

Dissolve the acetate of potash in ten fluid ounces, and add the persulphate of iron to eight fluid ounces of the spirit, then mix the two solutions in a two-pint bottle and shake them well together, repeating the agitation several times during an hour. Put the tincture, with the precipitated salt contained in it, upon a filter, and when the liquid has ceased to run through, put as much rectified spirit upon the filter as will make the filtered product measure one pint.

Dose.—5 to 30 minims.

TINCTURA FERRI PERCHLORIDI.

TINCTURE OF PERCHLORIDE OF IRON.*

Synonym.—TINCTURA FERRI SESQUICHLORIDI, *Lond.*

Take of

Strong Solution of Perchloride of Iron	5 fluid ounces
Rectified Spirit	15 fluid ounces

Mix, and preserve in a stoppered bottle.

Test.—Specific gravity 0·992.

Dose.—10 to 30 minims.

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[*] This tincture has about one-third the strength of Tinctura Ferri Sesquichloridi, *Dubl.*

TINCTURA GALLÆ.

Tincture of Galls.

Take of

Galls, in coarse powder	2½ ounces
Proof Spirit	1 pint

Macerate the galls for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of the spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—½ to 2 fluid drachms.

TINCTURA GENTIANÆ COMPOSITA.

Compound Tincture of Gentian.

Take of

Gentian Root, cut small and bruised	1½ ounce
Bitter-Orange Peel, cut small and bruised	¾ ounce
Cardamom Seeds, freed from the pericarps and bruised	¼ ounce
Proof Spirit	1 pint

Macerate the solid ingredients for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—½ to 2 fluid drachms.

TINCTURA GUAIACI AMMONIATA.

Ammoniated Tincture of Guaiacum.

Take of

Guaiacum Resin, in powder . .	4 ounces
Aromatic Spirit of Ammonia . .	a sufficiency

Macerate the guaiacum in fifteen fluid ounces of the aromatic spirit of ammonia for seven days in a well-closed vessel with occasional agitation, and filter, then add sufficient aromatic spirit of ammonia to make one pint.

Dose.—½ to 1 fluid drachm.

TINCTURA HYOSCYAMI.

Tincture of Hyoscyamus.

Take of

Hyoscyamus Leaves, in coarse powder .	2½ ounces
Proof Spirit	1 pint

Macerate the hyoscyamus for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—½ to 1 fluid drachm.

TINCTURA IODI.

Tincture of Iodine.

Take of

Iodine	½ ounce
Iodide of Potassium	¼ ounce
Rectified Spirit	1 pint

Dissolve the iodine and the iodide of potassium in the spirit.

Dose.—5 to 20 minims.

Preparation.—Vapor Iodi.

TINCTURA JALAPÆ.

TINCTURE OF JALAP.

Take of

Jalap, in coarse powder . . .	$2\frac{1}{2}$ ounces
Proof Spirit	1 pint

Macerate the jalap for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—$\frac{1}{2}$ to 2 fluid drachms.

TINCTURA KINO.

TINCTURE OF KINO.

Take of

Kino, in coarse powder	2 ounces
Rectified Spirit	1 pint

Macerate for seven days in a closed vessel, with occasional agitation, filter, and add sufficient rectified spirit to make one pint.

Dose.—$\frac{1}{2}$ to 2 fluid drachms.

TINCTURA KRAMERIÆ.

TINCTURE OF RHATANY.

Take of

Rhatany Root, in coarse powder . .	$2\frac{1}{2}$ ounces
Proof Spirit	1 pint

Macerate the rhatany root for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit.

Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—½ to 2 fluid drachms.

TINCTURA LAVANDULÆ COMPOSITA.

COMPOUND TINCTURE OF LAVENDER.

Synonym.—SPIRITUS LAVANDULÆ COMPOSITUS, *Edin.*

Take of

Oil of Lavender		1½ fluid drachm
Oil of Rosemary		10 minims
Cinnamon Bark, bruised	of each	150 grains
Nutmeg, bruised		
Red Sandal-wood		300 grains
Rectified Spirit		2 pints

Macerate the cinnamon, nutmeg, and red sandal-wood in the spirit for seven days in a closed vessel, with occasional agitation; then strain and press, dissolve the oils in the strained tincture, filter, and add sufficient rectified spirit to make two pints.

Dose.—½ to 2 fluid drachms.

Preparation.—Liquor Arsenicalis.

TINCTURA LIMONIS.

TINCTURE OF LEMON PEEL.

Take of

Fresh Lemon Peel, sliced thin	2½ ounces
Proof Spirit	1 pint

Macerate for seven days in a closed vessel, with occasional agitation; strain, press, and filter; then add sufficient proof spirit to make one pint.

Dose.—½ to 2 fluid drachms.

TINCTURA LOBELIÆ.

Tincture of Lobelia.

Take of

Lobelia, in coarse powder	2½ ounces
Proof Spirit	1 pint

Macerate the lobelia for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—10 minims to ½ fluid drachm.

TINCTURA LOBELIÆ ÆTHEREA.

Ethereal Tincture of Lobelia.

Take of

Lobelia, in coarse powder	2½ ounces
Spirit of Ether	1 pint

Macerate for seven days in a closed vessel, with occasional agitation; then strain, press, filter, and add sufficient spirit of ether to make one pint.

Dose.—10 minims to ½ fluid drachm.

TINCTURA LUPULI.

Tincture of Hop.

Take of

Hop	2½ ounces
Proof Spirit	1 pint

Macerate the hop for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—$\frac{1}{2}$ to 2 fluid drachms.

TINCTURA MYRRHÆ.

Tincture of Myrrh.

Take of

Myrrh, in coarse powder	$2\frac{1}{2}$ ounces
Rectified Spirit	1 pint

Macerate the myrrh for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient rectified spirit to make one pint.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

TINCTURA NUCIS VOMICÆ.

Tincture of Nux Vomica.

Take of

Nux Vomica	2 ounces
Rectified Spirit	1 pint

Apply steam to the nux vomica until it is thoroughly softened, then dry rapidly, and reduce it to fine powder. Macerate the powder for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient rectified spirit to make one pint.

Dose.—10 to 20 minims.

TINCTURA OPII.

TINCTURE OF OPIUM.

Take of

Opium, in coarse powder	1½ ounce
Proof Spirit	1 pint 20

Macerate for seven days in a closed vessel, with occasional agitation, then strain, press, filter, and add sufficient proof spirit to make one pint.

It contains the soluble matter of 33 grains of opium, nearly, in 1 fluid ounce.

Dose.—5 to 40 minims.

Preparations.—Enema Opii; Linimentum Opii.

TINCTURA OPII AMMONIATA.

AMMONIATED TINCTURE OF OPIUM.

Take of

Opium, in coarse powder	100 grains
Saffron, cut small Benzoic Acid } of each	180 grains
Oil of Anise	1 fluid drachm
Strong Solution of Ammonia	4 fluid ounces
Rectified Spirit	16 fluid ounces

Macerate for seven days in a well-closed vessel, with occasional agitation, then strain, press, filter, and add sufficient rectified spirit to make one pint.

Dose.—½ to 1 fluid drachm.

TINCTURA PYRETHRI.

TINCTURE OF PELLITORY.

Take of

Pellitory Root, in coarse powder	4 ounces
Rectified Spirit	1 pint

Macerate the pellitory for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient rectified spirit to make one pint.

TINCTURA QUASSIÆ.

Tincture of Quassia.

Take of

Quassia Wood, in chips	$\frac{3}{4}$ ounce
Proof Spirit	1 pint

Macerate for seven days in a closed vessel, with occasional agitation; then strain, press, filter, and add sufficient proof spirit to make one pint.

Dose.—$\frac{1}{2}$ to 2 fluid drachms.

TINCTURA QUINIÆ.

Tincture of Quinia.

Take of

Sulphate of Quinia	160 grains
Tincture of Orange Peel	1 pint

Dissolve the sulphate of quinia in the tincture with the aid of a gentle heat; then allow the solution to remain for three days in a closed vessel, shaking it occasionally; and afterwards filter.

Dose.—$\frac{1}{2}$ to 2 fluid drachms.

TINCTURA RHEI.

Tincture of Rhubarb.

Take of

Rhubarb Root, in coarse powder	2 ounces
Cardamom Seeds, freed from the pericarps, and bruised	of each $\frac{1}{4}$ ounce
Coriander Fruit, bruised	
Saffron	
Proof Spirit	1 pint

Macerate the solid ingredients for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—1 to 2 fluid drachms, as a stomachic; 4 to 8 fluid drachms, as a purgative.

TINCTURA SABINÆ.

Tincture of Savin.

Take of

Savin Tops, dried and coarsely powdered	2½ ounces
Proof Spirit	1 pint

Macerate the savin for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—20 minims to 1 fluid drachm.

TINCTURA SCILLÆ.

Tincture of Squill.

Take of

Squill, bruised	2½ ounces
Proof Spirit	1 pint

Macerate the squill for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—10 to 30 minims.

TINCTURA SENEGÆ.

Tincture of Senega.

Take of

Senega Root, in coarse powder . .	2½ ounces
Proof Spirit	1 pint

Macerate the senega for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—½ to 2 fluid drachms.

TINCTURA SENNÆ.

Tincture of Senna.

Take of

Senna, broken small	2½ ounces
Raisins, freed from seeds . . .	2 ounces
Caraway Fruit, bruised Coriander Fruit, bruised } of each . .	½ ounce
Proof Spirit	1 pint

Macerate the solid ingredients for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—1 to 4 fluid drachms.

Preparation.

Mistura Sennæ composita .	1 fluid drachm in 1 fluid ounce

TINCTURA SERPENTARIÆ.

TINCTURE OF SERPENTARY.

Take of

Serpentary Root, in coarse powder .	$2\frac{1}{2}$ ounces
Proof Spirit	1 pint

Macerate the serpentary for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of the spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—$\frac{1}{2}$ to 2 fluid drachms.

TINCTURA STRAMONII.

TINCTURE OF STRAMONIUM.

Take of

Stramonium Seeds, bruised . . .	$2\frac{1}{2}$ ounces
Proof Spirit	1 pint

Macerate the stramonium for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—10 to 30 minims.

TINCTURA SUMBUL.

TINCTURE OF SUMBUL.

Take of

Sumbul Root, in coarse powder . .	2½ ounces
Proof Spirit	1 pint

Macerate the sumbul for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—10 to 30 minims.

TINCTURA TOLUTANA.

TINCTURE OF TOLU.

Take of

Balsam of Tolu	2½ ounces
Rectified Spirit	a sufficiency

Macerate the balsam of tolu in fifteen fluid ounces of the spirit, in a closed vessel, with occasional agitation, for six hours, or until the balsam is dissolved; then filter, and add sufficient rectified spirit to make one pint.

Dose.—20 to 40 minims.

Preparations.—Trochisci Acidi Tannici; Trochisci Morphiæ; Trochisci Morphiæ et Ipecacuanhæ; Trochisci Opii.

TINCTURA VALERIANÆ.

TINCTURE OF VALERIAN.

Take of

Valerian Root, in coarse powder	2½ ounces
Proof Spirit	1 pint

Macerate the valerian root for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient proof spirit to make one pint.

Dose.—1 to 2 fluid drachms.

TINCTURA VALERIANÆ AMMONIATA.

AMMONIATED TINCTURE OF VALERIAN.

Take of

Valerian Root, in coarse powder	2½ ounces
Aromatic Spirit of Ammonia	1 pint

Macerate for seven days in a well-closed vessel, with occasional agitation; then strain, press, filter, and add sufficient aromatic spirit of ammonia to make one pint.

Dose.—½ to 1 fluid drachm.

TINCTURA VERATRI VIRIDIS.

TINCTURE OF GREEN HELLEBORE.

Take of

Green Hellebore Root, in coarse powder	4 ounces
Rectified Spirit	1 pint

Macerate the hellebore for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient rectified spirit to make one pint.

Dose.—5 to 20 minims.

TINCTURA ZINGIBERIS.

Tincture of Ginger.

Take of

Ginger, in coarse powder . . .	2½ ounces
Rectified Spirit	1 pint

Macerate the ginger for forty-eight hours in fifteen fluid ounces of the spirit, in a closed vessel, agitating occasionally; then transfer to a percolator, and when the fluid ceases to pass, continue the percolation with the remaining five ounces of spirit. Afterwards subject the contents of the percolator to pressure, filter the product, mix the liquids, and add sufficient rectified spirit to make one pint.

Dose.—15 minims to 1 fluid drachm.

TINCTURA ZINGIBERIS FORTIOR.

Strong Tincture of Ginger.

Synonym.—Essence of Ginger.

Take of

Ginger, in fine powder . . .	10 ounces
Rectified Spirit	a sufficiency

Pack the ginger tightly in a percolator, and pour over it carefully half a pint of the spirit. At the expiration of two hours add more spirit, and let it percolate slowly until one pint of tincture has been collected.

Dose.—5 to 20 minims.

Preparation.

Syrupus Zingiberis	6 fluid drachms in 1 pint

TRAGACANTHA.

TRAGACANTH.

A gummy exudation from the stems of Astragalus verus *Olivier, Voy., DC.; Nees, Plant. Med.,* plate 329; and possibly other species. Collected in Asia Minor.

Characters.—White or yellowish, in broad shell-like slightly curved plates, tough and elastic, but rendered more pulverisable by a heat of 120° Fahr.; very sparingly soluble in cold water; but swelling into a gelatinous mass, which is tinged violet by tincture of iodine. After maceration in cold water the fluid portion is not precipitated by the addition of rectified spirit.

Preparations.

Confectio Opii	1 part in 120, nearly
Mucilago Tragacanthæ	60 grains to 10 fluid ounces
Pulvis Opii compositus	1 part in 30
,, Tragacanthæ compositus	1 part in 6

TROCHISCI ACIDI TANNICI.

TANNIC ACID LOZENGES.

Take of

Tannic Acid	360 grains
Tincture of Tolu	½ fluid ounce
Refined Sugar, in powder	25 ounces
Gum Acacia, in powder	1 ounce
Mucilage of Gum Acacia	2 fluid ounces
Distilled Water	1 fluid ounce

Dissolve the tannic acid in the water; add, first, the tincture of tolu, previously mixed with the mucilage, then, the gum and the sugar, also previously well mixed. Form the whole into a proper mass; divide it into 720 lozenges, and dry these in a hot-air chamber with a moderate heat.

Each lozenge contains half a grain of tannic acid.

Dose.—1 to 6 lozenges.

TROCHISCI BISMUTHI.

BISMUTH LOZENGES.

Take of

Subnitrate of Bismuth . . .	1440 grains
Carbonate of Magnesia . . .	4 ounces
Precipitated Carbonate of Lime .	6 ounces
Refined Sugar	29 ounces
Gum Acacia, in powder . . .	1 ounce
Mucilage of Gum Acacia . .	2 fluid ounces
Rose Water	a sufficiency

Mix the dry ingredients, then add the mucilage, and form the whole into a proper mass with rose water. Divide the mass into 720 lozenges, and dry these in a hot-air chamber with a moderate heat.

Each lozenge contains two grains of subnitrate of bismuth.

Dose.—1 to 6 lozenges.

TROCHISCI CATECHU.

CATECHU LOZENGES.

Take of

Pale Catechu, in powder . . .	720 grains
Refined Sugar, in powder . . .	25 ounces
Gum Acacia, in powder . . .	1 ounce
Mucilage of Gum Acacia . . .	2 fluid ounces
Distilled Water	a sufficiency

Mix the catechu, sugar, and gum, and add the mucilage and water to form a proper mass. Divide into 720 lozenges, and dry these in a hot-air chamber with a moderate heat.

Each lozenge contains one grain of catechu.

Dose.—1 to 6 lozenges.

TROCHISCI FERRI REDACTI.

Reduced Iron Lozenges.

Take of

Reduced Iron	720 grains
Refined Sugar, in powder	25 ounces
Gum Acacia, in powder	1 ounce
Mucilage of Gum Acacia	2 fluid ounces
Distilled Water	1 fluid ounce, or a sufficiency

Mix the iron, sugar, and gum, and add the mucilage and water to form a proper mass. Divide into 720 lozenges, and dry these in a hot-air chamber with a moderate heat.

Each lozenge contains one grain of reduced iron.

Dose.—1 to 6 lozenges.

TROCHISCI IPECACUANHÆ.

Ipecacuanha Lozenges.

Take of

Ipecacuanha in powder	180 grains
Refined Sugar, in powder	25 ounces
Gum Acacia, in powder	1 ounce
Mucilage of Gum Acacia	2 fluid ounces
Distilled Water	1 fluid ounce, or a sufficiency

Mix the powders and add the mucilage and water to form a proper mass. Divide into 720 lozenges, and dry these in a hot-air chamber with a moderate heat.

Each lozenge contains a quarter of a grain of ipecacuanha.

Dose.—1 to 3 lozenges.

TROCHISCI MORPHIÆ.

MORPHIA LOZENGES.

Take of

Hydrochlorate of Morphia	20 grains
Tincture of Tolu	½ fluid ounce
Refined Sugar, in powder	24 ounces
Gum Acacia, in powder	1 ounce
Mucilage of Gum Acacia	a sufficiency
Distilled Water	½ fluid ounce

Dissolve the hydrochlorate of morphia in the water; add this solution to the tincture of tolu, previously mixed with two fluid ounces of the mucilage; then add the gum and sugar, previously mixed, and more mucilage if necessary to form a proper mass. Divide into 720 lozenges, and dry these in a hot-air chamber with a moderate heat.

Each lozenge contains one thirty-sixth of a grain of hydrochlorate of morphia.

Dose.—1 to 6 lozenges.

TROCHISCI MORPHIÆ ET IPECACUANHÆ.

MORPHIA AND IPECACUANHA LOZENGES.

Take of

Hydrochlorate of Morphia	20 grains
Ipecacuanha, in fine powder	60 grains
Tincture of Tolu	½ fluid ounce
Refined Sugar, in powder	24 ounces
Gum Acacia, in powder	1 ounce
Mucilage of Gum Acacia	a sufficiency
Distilled Water	½ fluid ounce

Dissolve the hydrochlorate of morphia in the water; add this solution to the tincture of tolu, previously mixed with two fluid ounces of the mucilage; then add the ipecacuanha, gum and sugar, previously mixed, and more mucilage if necessary to form a proper mass. Divide into 720 lozenges, and dry these in a hot-air chamber with a moderate heat.

Each lozenge contains one thirty-sixth of a grain of hydrochlorate of morphia, and one-twelfth of a grain of ipecacuanha.

Dose.—1 to 6 lozenges.

TROCHISCI OPII.

Opium Lozenges.

Take of

Extract of Opium	72 grains
Tincture of Tolu	½ fluid ounce
Refined Sugar, in powder	16 ounces
Gum Acacia, in powder	2 ounces
Extract of Liquorice	6 ounces
Distilled Water	a sufficiency

Add the extract of opium, first softened by means of a little water, and the tincture of tolu, to the extract of liquorice heated in a water-bath. When the mixture is reduced to a proper consistence remove it to a slab, add the sugar and gum previously rubbed together, and mix thoroughly. Divide the mass into 720 lozenges, and dry these in a hot-air chamber with a moderate heat.

Each lozenge contains one-tenth of a grain of extract of opium.

Dose.—1 to 6 lozenges.

TROCHISCI POTASSÆ CHLORATIS.

Chlorate of Potash Lozenges.

Take of

Chlorate of Potash in powder	3600 grains
Refined Sugar, in powder	25 ounces
Gum Acacia, in powder	1 ounce
Mucilage of Gum Acacia	2 fluid ounces
Distilled Water	1 fluid ounce, or a sufficiency

Mix the powders and add the mucilage and water to form a proper mass. Divide into 720 lozenges, and dry these in a hot-air chamber with a moderate heat.

Each lozenge contains five grains of chlorate of potash.

Dose.—1 to 6 lozenges.

TROCHISCI SODÆ BICARBONATIS.

Bicarbonate of Soda Lozenges.

Take of

Bicarbonate of Soda, in powder	3600 grains
Refined Sugar, in powder	25 ounces
Gum Acacia in powder	1 ounce
Mucilage of Gum Acacia	2 fluid ounces
Distilled Water	1 fluid ounce

Mix the powders and add the mucilage and water to form a proper mass. Divide into 720 lozenges, and dry these in a hot-air chamber with a moderate heat.

Each lozenge contains five grains of bicarbonate of soda.

Dose.—1 to 6 lozenges.

ULMI CORTEX.

Elm Bark.

The dried inner bark of Ulmus campestris *Linn.*, Broad-leaved Elm. *Woodv. Med. Bot.*, plate 197. From trees indigenous to and cultivated in Britain.

Characters.—A tough brownish-yellow bark, about half a line thick, without smell; taste mucilaginous, slightly bitter and astringent. Its decoction is turned green by perchloride of iron, and precipitates with a solution of gelatine.

Preparation.—Decoctum Ulmi, 2½ ounces to 1 pint.

UNGUENTUM ACONITIÆ.

OINTMENT OF ACONITIA.

Take of

Aconitia	8 grains
Rectified Spirit	½ fluid drachm
Prepared Lard	1 ounce

Dissolve the aconitia in the spirit, add the lard, and mix thoroughly.

UNGUENTUM ANTIMONII TARTARATI.

OINTMENT OF TARTARATED ANTIMONY.*

Take of

Tartarated Antimony, in fine powder	¼ ounce
Simple Ointment	1 ounce

Mix thoroughly.

UNGUENTUM ATROPIÆ.

OINTMENT OF ATROPIA.

Take of

Atropia	8 grains
Rectified Spirit	½ fluid drachm
Prepared Lard	1 ounce

Dissolve the atropia in the spirit, add the lard, and mix thoroughly.

UNGUENTUM BELLADONNÆ.

OINTMENT OF BELLADONNA.

Take of

Extract of Belladonna	80 grains
Prepared Lard	1 ounce

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* This ointment contains nearly twice as much tartarated antimony as Unguentum Antimonii Tartarizati, *Dubl.*

Rub the extract smooth with a few drops of distilled water, then add the lard, and mix thoroughly.

UNGUENTUM CADMII IODIDI.

Ointment of Iodide of Cadmium.

Take of

Iodide of Cadmium, in fine powder .	62 grains
Simple Ointment	1 ounce

Mix thoroughly.

UNGUENTUM CANTHARIDIS.

Ointment of Cantharides.

Synonym.—Ceratum Cantharidis, *Lond.*

Take of

Cantharides Yellow Wax	of each . . .	1 ounce
Olive Oil		6 fluid ounces

Infuse the cantharides in the oil, in a covered vessel for twelve hours, then place the vessel in boiling water for fifteen minutes, strain through muslin with strong pressure, add the product to the wax previously melted, and stir constantly while the mixture cools.

UNGUENTUM CETACEI.

Ointment of Spermaceti.

Take of

Spermaceti	5 ounces
White Wax	2 ounces
Almond Oil	1 pint, or a sufficiency

Melt together with a gentle heat, remove the mixture, and stir constantly while it cools.

UNGUENTUM CREASOTI.

Ointment of Creasote.

Take of

Creasote	1 fluid drachm
Simple Ointment	1 ounce

Mix thoroughly.

UNGUENTUM ELEMI.

Ointment of Elemi.

Take of

Elemi	¼ ounce
Simple Ointment	1 ounce

Melt, strain through flannel, and stir constantly until the ointment solidifies.

UNGUENTUM GALLÆ.

Ointment of Galls.

Take of

Galls, in fine powder	80 grains
Benzoated Lard	1 ounce

Mix thoroughly.

UNGUENTUM GALLÆ CUM OPIO.

Ointment of Galls and Opium.

Take of

Ointment of Galls	1 ounce
Opium, in powder	32 grains

Mix thoroughly.

UNGUENTUM HYDRARGYRI.

Ointment of Mercury.

Take of

Mercury Prepared Lard	of each	1 pound
Prepared Suet		1 ounce

Rub them together until metallic globules cease to be visible.

Preparations.—Linimentum Hydrargyri; Suppositoria Hydrargyri; Unguentum Hydrargyri compositum.

UNGUENTUM HYDRARGYRI AMMONIATI.

Ointment of Ammoniated Mercury.

Synonym.—Unguentum Hydrargyri Ammonio-Chloridi, *Lond.*
Unguentum Præcipitati albi, *Ed.*

Take of

Ammoniated Mercury	62 grains
Simple Ointment	1 ounce

Mix thoroughly.

UNGUENTUM HYDRARGYRI COMPOSITUM.

Compound Ointment of Mercury.

Take of

Ointment of Mercury		6 ounces
Yellow Wax Olive Oil	of each	3 ounces
Camphor		1½ ounce

Melt the wax with a gentle heat and add the oil, then, when the mixture is nearly cold, add the camphor in powder, and the ointment of mercury, and mix the whole thoroughly together.

UNGUENTUM HYDRARGYRI IODIDI RUBRI.

Ointment of Red Iodide of Mercury.[*]

Take of

Red Iodide of Mercury, in fine powder	16 grains
Simple Ointment	1 ounce

Mix thoroughly.

UNGUENTUM HYDRARGYRI NITRATIS.

Ointment of Nitrate of Mercury.

Synonym.—Unguentum Citrinum, *Ed.*

Take of

Mercury, by weight	4 ounces
Nitric Acid	12 fluid ounces
Prepared Lard	15 ounces
Olive Oil	32 fluid ounces

Dissolve the mercury in the nitric acid with the aid of a gentle heat; melt the lard in the oil, by a steam or water bath, in a porcelain vessel capable of holding six times the quantity; and, while the mixture is hot, add the solution of mercury, also hot, mixing them thoroughly. If the mixture do not froth up, increase the heat till this occurs. Keep it stirred until it is cold.

UNGUENTUM HYDRARGYRI OXIDI RUBRI.

Ointment of Red Oxide of Mercury.

Synonym.—Unguentum Hydrargyri Nitrico-oxidi, *Lond.*

Take of

Red Oxide of Mercury, in very fine powder	62 grains
Yellow Wax	$\frac{1}{4}$ ounce
Oil of Almonds	$\frac{3}{4}$ ounce

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[*] This ointment is about one-fourth the strength of that ordered in the *Dubl. Pharm.*

Melt the wax at a gentle heat, mix the oil with it, and when the mixture is nearly cold, add the oxide of mercury and mix the whole thoroughly together.

UNGUENTUM HYDRARGYRI SUBCHLORIDI.

Ointment of Subchloride of Mercury.

Synonym.—Unguentum Calomelanos, 1864.

Take of

Subchloride of Mercury	80 grains
Prepared Lard	1 ounce

Mix thoroughly.

UNGUENTUM IODI.

Ointment of Iodine.

Synonym.—Unguentum Iodi Compositum, 1864.

Take of

Iodine . . . Iodide of Potassium	of each . .	32 grains
Proof Spirit		1 fluid drachm
Prepared Lard		2 ounces

Rub the iodine and the iodide of potassium well together, with the spirit, in a glass or porcelain mortar, add the lard gradually, and mix thoroughly.

UNGUENTUM PICIS LIQUIDÆ.

Ointment of Tar.

Take of

Tar	5 ounces
Yellow Wax	2 ounces

Melt the wax with a gentle heat, add the tar, and stir the mixture briskly while it cools.

UNGUENTUM PLUMBI ACETATIS.

Ointment of Acetate of Lead.

Take of

Acetate of Lead, in fine powder	12 grains
Benzoated Lard	1 ounce

Mix thoroughly.

UNGUENTUM PLUMBI CARBONATIS.

Ointment of Carbonate of Lead.

Take of

Carbonate of Lead, in fine powder	62 grains
Simple Ointment	1 ounce

Mix thoroughly.

UNGUENTUM PLUMBI IODIDI.

Ointment of Iodide of Lead.

Take of

Iodide of Lead, in fine powder	62 grains
Simple Ointment	1 ounce

Mix thoroughly.

UNGUENTUM PLUMBI SUBACETATIS COMPOSITUM.

Compound Ointment of Subacetate of Lead.

Take of

Solution of Subacetate of Lead	6 fluid ounces
Camphor	60 grains
White Wax	8 ounces
Oil of Almonds	1 pint

Melt the wax with sixteen ounces of the oil by the heat of a water-bath, remove the vessel, and, as soon as the mixture begins to thicken, gradually add the solution of subacetate of lead, and stir the mixture constantly while it cools; then add the camphor dissolved in the rest of the oil, and mix thoroughly.

UNGUENTUM POTASSÆ SULPHURATÆ.

OINTMENT OF SULPHURATED POTASH.

Take of

Sulphurated Potash	30 grains
Prepared Lard	1 ounce

Triturate the sulphurated potash in a porcelain mortar and gradually add the lard, rubbing them together until the ointment is perfectly smooth and free from grittiness.

This ointment, when used, should be recently prepared.

UNGUENTUM POTASSII IODIDI.

OINTMENT OF IODIDE OF POTASSIUM.

Take of

Iodide of Potassium . . .	64 grains
Carbonate of Potash . . .	4 grains
Distilled Water	1 fluid drachm
Prepared Lard	1 ounce

Dissolve the iodide of potassium and carbonate of potash in the water, and mix thoroughly with the lard.

UNGUENTUM RESINÆ.

OINTMENT OF RESIN.

Synonym.—CERATUM RESINÆ, *Lond.*

Take of

Resin, in coarse powder	8 ounces
Yellow Wax	4 ounces
Simple Ointment	16 ounces

Melt with a gentle heat, strain the mixture while hot, through flannel, and stir constantly while it cools.

UNGUENTUM SABINÆ.

OINTMENT OF SAVIN.

Synonym.—CERATUM SABINÆ, *Edin.*

Take of

Fresh Savin Tops, bruised	8 ounces
Yellow Wax	3 ounces
Prepared Lard	16 ounces

Melt the lard and the wax together on a water-bath, add the savin, and digest for twenty minutes. Then remove the mixture, and express through calico.

UNGUENTUM SIMPLEX.

SIMPLE OINTMENT.

Take of

White Wax	2 ounces
Prepared Lard	3 ounces
Almond Oil	3 fluid ounces

Melt the wax and lard in the oil on a water-bath; then remove the mixture, and stir constantly while it cools.

Preparations.

Unguentum Antimonii Tartarati
,, Cadmii Iodidi
,, Creasoti
,, Elemi
,, Hydrargyri Ammoniati
,, ,, Iodidi Rubri
,, Plumbi Carbonatis
,, ,, Iodidi

UNGUENTUM SULPHURIS.

OINTMENT OF SULPHUR.

Take of

Sublimed Sulphur	1 ounce
Benzoated Lard	4 ounces

Mix thoroughly.

UNGUENTUM SULPHURIS IODIDI.

OINTMENT OF IODIDE OF SULPHUR.

Take of

Iodide of Sulphur	30 grains
Prepared Lard	1 ounce

Triturate the iodide of sulphur in a porcelain mortar, and gradually add the lard, rubbing them together until the ointment is perfectly smooth and free from grittiness.

UNGUENTUM TEREBINTHINÆ.

OINTMENT OF TURPENTINE.

Take of

Oil of Turpentine	1 fluid ounce
Resin, in coarse powder	60 grains
Yellow Wax Prepared Lard } of each	½ ounce

Melt the ingredients together by the heat of a steam or water-bath. Remove the vessel, and stir the mixture constantly while it cools.

UNGUENTUM VERATRIÆ.

OINTMENT OF VERATRIA.

Take of

Veratria	8 grains
Prepared Lard	1 ounce
Olive Oil	½ fluid drachm

Rub the veratria and the oil together; then mix them thoroughly with the lard.

UNGUENTUM ZINCI.

OINTMENT OF ZINC.

Synonym.—UNGUENTUM ZINCI OXIDI, 1864.

Take of

Oxide of Zinc	80 grains
Benzoated Lard	1 ounce

Add the oxide of zinc to the benzoated lard, previously melted with a gentle heat, and stir the mixture constantly while it cools.

UVÆ URSI FOLIA.

BEARBERRY LEAVES.

The dried leaves of Arctostaphylos Uva Ursi *Spreng. Syst. Woodv. Med. Bot.* plate 70 (*Arbutus Uva Ursi*). From indigenous plants.

Characters.—Obovate entire coriaceous shining leaves, about three fourths of an inch in length, reticulated beneath; with a strong astringent taste, and a feeble hay-like odour when powdered; the infusion giving a bluish-black precipitate with perchloride of iron. Leaves not dotted beneath nor toothed on the margin.

Preparation.—Infusum Uvæ Ursi, 1 ounce to 1 pint.

UVÆ.

RAISINS.

The ripe fruit of Vitis vinifera *Linn.*, the Grape Vine. *Woodv. Med. Bot.* plate 195. Dried in the sun or with artificial heat; imported from Spain.

Preparations.—Tinctura Cardamomi composita; Tinctura Sennæ.

VALERIANÆ RADIX.

VALERIAN ROOT.

The dried root of Valeriana officinalis *Linn. Woodv. Med. Bot.*, plate 96. From plants indigenous to and also cultivated in Britain; collected in autumn, wild plants being preferred.

Characters.—A short yellowish-white rhizome, with numerous fibrous roots about two or three inches long; of a bitter taste and penetrating odour, agreeable in the recent root, becoming fetid by keeping; yielding volatile oil and valerianic acid when distilled with water.

Dose in powder.—10 to 30 grains.

Preparations.

Infusum Valerianæ . .	240 grains to 1 pint
Tinctura Valerianæ . .	2½ ounces to 1 pint
,, ,, ammoniata	2½ ounces to 1 pint

VAPOR ACIDI HYDROCYANICI.

INHALATION OF HYDROCYANIC ACID.

Take of

Diluted Hydrocyanic Acid . . .	10 to 15 minims
Water (cold)	1 fluid drachm

Mix in a suitable apparatus and let the vapour that arises be inhaled.

VAPOR CHLORI.

INHALATION OF CHLORINE.

Take of

Chlorinated Lime	2 ounces
Water (cold)	a sufficiency

Put the powder into a suitable apparatus, moisten it with the water, and let the vapour that arises be inhaled.

VAPOR CONIÆ.

INHALATION OF CONIA.

Take of

Extract of Hemlock . . .	60 grains
Solution of Potash . . .	1 fluid drachm
Distilled Water	10 fluid drachms

Mix. Put 20 minims of the mixture on a sponge, in a suitable apparatus, so that the vapour of hot water passing over it may be inhaled.

VAPOR CREASOTI.

INHALATION OF CREASOTE.

Take of

Creasote	12 minims
Boiling Water . . . . ,	8 fluid ounces

Mix the creasote and water in an apparatus so arranged that air may be made to pass through the solution, and may afterwards be inhaled.

VAPOR IODI.

INHALATION OF IODINE.

Take of

Tincture of Iodine	1 fluid drachm
Water	1 fluid ounce

Mix in a suitable apparatus, and, having applied a gentle heat, let the vapour that arises be inhaled.

VERATRI VIRIDIS RADIX.

GREEN HELLEBORE ROOT.

The dried rhizome of Veratrum viride, *Willd.* Collected in autumn in the United States and Canada.

Preparation.—Tinctura Veratri Viridis, 4 ounces to 1 pint.

VERATRIA.

VERATRIA.

An alkaloid obtained from Cevadilla; not quite pure.

It may be obtained by the following process:—

Take of

Cevadilla		2 pounds
Distilled Water	of each	a sufficiency
Rectified Spirit		
Solution of Ammonia		
Hydrochloric Acid		
Purified Animal Charcoal		60 grains

Macerate the cevadilla with half its weight of boiling distilled water in a covered vessel for twenty-four hours. Remove the cevadilla, squeeze it, and dry it thoroughly with a gentle heat. Beat it now in a mortar, and separate the seeds from the capsules by brisk agitation in a deep narrow vessel, or by winnowing it gently on a table with a sheet of paper. Grind the seeds in a coffee-mill, and form them into a thick paste with rectified spirit. Pack this firmly in a percolator, and pass rectified spirit through it till the spirit ceases to be coloured. Concentrate the spirituous solution by distillation, so long as no deposit forms, and pour the residue, while hot, into twelve times its volume of cold distilled water. Filter through calico, and wash the residue on the filter with distilled water, till the fluid ceases to precipitate with ammonia. To the united filtered liquids add the ammonia in slight excess, let the precipitate completely subside, pour off the supernatant fluid, collect the precipitate on a filter, and wash it with distilled water till the fluid passes colourless. Diffuse the moist precipitate through twelve fluid ounces of distilled water, and add gradually with diligent stirring sufficient hydrochloric acid to make the fluid feebly but persistently acid. Then add the animal charcoal, digest at a gentle heat for twenty minutes, filter, and allow the liquid to cool. Add ammonia in slight excess, and, when the precipitate has completely subsided, pour off the supernatant liquid, collect the precipitate on a filter, and wash it with cold distilled water till the washings cease to be affected by nitrate of silver acidulated with nitric acid. Lastly dry the precipitate first by imbibition, with filtering paper, and then by the application of a gentle heat.

Characters and Tests.—Pale grey, amorphous, without smell, but, even in the most minute quantity, powerfully irritating the nostrils; strongly and persistently bitter, and highly acrid; insoluble in water, soluble in spirit, in ether, and in diluted acids, leaving traces of an insoluble brown resinoid matter. Heated with access of air it melts into a yellow liquid, and at length burns away, leaving no residue. An active poison.

Preparation.—Unguentum Veratriæ, 8 grains to 1 ounce.

VINUM ALOES.

Wine of Aloes.

Take of

Socotrine Aloes		1½ ounce
Cardamom Seeds, freed from the pericarps and bruised	of each	80 grains
Ginger, in coarse powder		
Sherry		2 pints

Macerate for seven days in a closed vessel, with occasional agitation; filter the liquor and add sufficient sherry to make two pints.

Dose.—1 to 2 fluid drachms.

VINUM ANTIMONIALE.

Antimonial Wine.

Take of

Tartarated Antimony	40 grains
Sherry	1 pint

Dissolve.

Dose.—5 minims to 1 fluid drachm.

VINUM AURANTII.

ORANGE WINE.

Wine made in Britain, by the fermentation of a saccharine solution to which the fresh peel of the bitter orange has been added.

Characters and Tests.—A vinous liquid, having a golden sherry colour, and a taste and aroma derived from the bitter orange peel. It contains about 12 per cent. of alcohol, and is but slightly acid to test paper.

Preparations.

Vinum Ferri Citratis	Vinum Quiniæ

VINUM COLCHICI.

WINE OF COLCHICUM.

Take of

Colchicum Corm, sliced, dried, and bruised	4 ounces
Sherry	1 pint

Macerate the colchicum in the wine for seven days in a closed vessel, with occasional agitation, press and strain through calico; then add sufficient sherry to make one pint.

Dose.—10 to 30 minims.

VINUM FERRI.

WINE OF IRON.

Take of

Fine Iron Wire (about No. 35) . . .	1 ounce
Sherry	1 pint

Macerate for thirty days in a closed vessel, the iron being almost, but not quite, wholly immersed in the wine, and the vessel frequently shaken, and the stopper removed; then filter.

Dose.—1 to 4 fluid drachms.

VINUM FERRI CITRATIS.

Wine of Citrate of Iron.

Take of

Citrate of Iron and Ammonia . .	160 grains
Orange Wine	1 pint

Dissolve, and let the solution remain for three days in a closed vessel, shaking it occasionally; afterwards filter.

Dose.—1 to 4 fluid drachms.

VINUM IPECACUANHÆ.

Wine of Ipecacuanha.

Take of

Ipecacuanha, bruised	1 ounce
Sherry	1 pint

Macerate for seven days in a closed vessel, with occasional agitation, strain, press, and filter; then add sufficient sherry to make one pint.

Dose.—5 to 40 minims as an expectorant; 3 to 6 fluid drachms as an emetic.

VINUM OPII.

Wine of Opium.*

Take of

Extract of Opium	1 ounce
Cinnamon Bark, bruised Cloves, bruised . . } of each . .	75 grains
Sherry	1 pint

Macerate for seven days in a closed vessel, with occasional agitation, and filter.

It contains 22 grains of extract of opium, nearly, in 1 fluid ounce.

Dose.—10 to 40 minims.

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* This is about $\frac{1}{4}$ stronger than Vinum Opii of the *Brit. Pharm.* 1864, and also of the *Edin.* and *Dubl. Pharm.* It is about $\frac{1}{5}$ weaker than Vinum Opii, *Lond.*, and corresponds in strength with Extractum Opii Liquidum.

VINUM QUINIÆ.

WINE OF QUINIA.

Synonym.—QUININE WINE.

Take of

Sulphate of Quinia	20 grains
Citric Acid	30 grains
Orange Wine	1 pint

Dissolve, first the citric acid, and then the sulphate of quinia, in the wine; allow the solution to remain for three days in a closed vessel, shaking it occasionally; and afterwards filter.

Dose.—$\frac{1}{2}$ to 1 fluid ounce.

VINUM RHEI.

WINE OF RHUBARB.

Take of

Rhubarb Root, in coarse powder	$1\frac{1}{2}$ ounce
Canella Alba Bark, in coarse powder	60 grains
Sherry	1 pint

Macerate for seven days in a closed vessel with occasional agitation, then strain, press, filter, and add sufficient sherry to make one pint.

Dose.—1 to 2 drachms.

VINUM XERICUM.

SHERRY.

A Spanish Wine.

Characters.—Pale yellowish brown, containing about seventeen or eighteen per cent. of alcohol.

Preparations.

Vinum Aloes
,, Antimoniale
,, Colchici
,, Ferri
Vinum Ipecacuanhæ
,, Opii
,, Rhei

ZINCI ACETAS.

Acetate of Zinc.

$ZnO,C_4H_3O_3+2HO$, or $Zn(C_2H_3O_2)_2.2H_2O$.

Take of

Carbonate of Zinc	2 ounces
Acetic Acid	5 fluid ounces, or a sufficiency
Distilled Water	6 fluid ounces

Add the carbonate of zinc in successive portions to three ounces of the acetic acid previously mixed with the water in a flask; heat gently, add by degrees the remainder of the acid till the carbonate is dissolved; boil for a few minutes, filter while hot, and set it aside for two days to crystallise. Decant the mother liquor; evaporate to one half, and again set it aside for two days to crystallise. Place the crystals in a funnel to drain, then spread them on filtering paper on a porous tile, and dry them by exposure to the air at ordinary temperatures.

Characters and Tests.—Thin translucent and colourless crystalline plates, of a pearly lustre, with a sharp unpleasant taste; evolving acetic acid when decomposed by sulphuric acid; soluble in water, and the solution precipitated pure white by sulphuretted hydrogen. A dilute watery solution is not affected by chloride of barium or nitrate of silver; and, when slightly acidulated with hydrochloric acid, is not precipitated by sulphuretted hydrogen; after it has been boiled for a few minutes with a little nitric acid, it yields with ammonia a white precipitate entirely soluble without colour in an excess of the reagent.

Dose.—1 to 2 grains (as a tonic); 10 to 20 grains (as an emetic).

ZINCI CARBONAS.

Carbonate of Zinc.

$ZnO,CO_2 + 2ZnO + 3HO$ or $ZnCO_3(ZnO)_2.3H_2O$.

Take of

Sulphate of Zinc	10 ounces
Carbonate of Soda	10½ ounces
Boiling Distilled Water	a sufficiency

Dissolve the carbonate of soda with a pint of the water in a capacious porcelain vessel, and pour into it the sulphate of zinc also dissolved in a pint of the water, stirring diligently. Boil for fifteen minutes after effervescence has ceased; and let the precipitate subside. Decant the supernatant liquor, pour on the precipitate three pints of boiling distilled water, agitating briskly; let the precipitate again subside, and repeat the processes of affusion of hot distilled water and subsidence, till the washings are no longer precipitated by chloride of barium. Collect the precipitate on calico, let it drain, and dry it with a gentle heat.

Characters and Tests.—White, tasteless, inodorous, insoluble in water; soluble, with effervescence and without residue, in diluted nitric acid. This solution is not affected by chloride of barium or nitrate of silver, and gives with carbonate of ammonia a white precipitate entirely soluble without colour in an excess of the reagent, forming a solution which is precipitated white by sulphide of ammonium.

Preparations.—Zinci Acetas; Zinci Oxidum.

ZINCI CHLORIDUM.

Chloride of Zinc.

$ZnCl$ or $ZnCl_2$.

Take of

Granulated Zinc	16 ounces
Hydrochloric Acid	44 fluid ounces
Solution of Chlorine	a sufficiency
Carbonate of Zinc	$\frac{1}{2}$ ounce, or a sufficiency
Distilled Water	1 pint

Put the zinc into a porcelain basin, add by degrees the hydrochloric acid previously mixed with the water, and aid the action by gently warming it on a sand-bath until gas is no longer evolved. Boil for half an hour, supplying the water lost by evaporation, and allow it to stand on a cool part of a sand-bath for twenty-four hours, stirring frequently. Filter the product into a gallon bottle, and pour in the solution of chlorine by degrees, with frequent agitation, until the fluid acquires a permanent odour of chlorine. Add the carbonate of zinc, in small quantities at a time, and with renewed agitation, until a brown sediment appears. Filter through paper into a porcelain basin, and evaporate until a portion of the liquid, withdrawn on the end of a glass rod and cooled, forms an opaque white solid. Pour it out now into proper moulds, and when the salt has solidified, but before it has cooled, place it in closely stoppered bottles.

Characters and Tests.—Colourless opaque rods or tablets, very deliquescent and caustic; soluble almost entirely in water, alcohol, and ether. The watery solution is precipitated white by sulphide of ammonium and nitrate of silver; but, if first acidulated with hydrochloric acid, it is not affected by sulphuretted hydrogen. Its watery solution is not affected by chloride of barium or oxalate of ammonia, and is not tinged blue by yellow or red prussiate of potash. Ammonia throws down a white precipitate entirely soluble in an excess of the reagent.

Preparation containing Chloride of Zinc.

Liquor Zinci Chloridi . 366 grains in 1 fluid ounce

ZINCI OXIDUM.

OXIDE OF ZINC.

ZnO or $\mathbf{ZnO}$.

Take of

Carbonate of Zinc	6 ounces

Place the carbonate of zinc in a loosely covered Hessian crucible, and expose it to a dull red heat, until a portion, taken from the centre of the contents of the crucible and cooled, no longer effervesces when dropped into diluted sulphuric acid. Let the crucible cool, and transfer the product to stoppered bottles.

Characters and Tests.—A soft nearly white tasteless and inodorous powder, becoming pale-yellow when heated. Dissolves without effervescence in diluted nitric acid, forming a solution, which is not affected by chloride of barium or nitrate of silver, and gives with carbonate of ammonia a white precipitate which dissolves entirely without colour in an excess of the reagent, forming a solution which is precipitated white by sulphide of ammonium.

Dose.—2 to 10 grains.

Preparation.—Unguentum Zinci, 1 part in 6½, nearly

ZINCI SULPHAS.

SULPHATE OF ZINC.

$ZnO,SO_3 + 7HO$ or $\mathbf{ZnSO_4.7H_2O}$.

Take of

Granulated Zinc . . .	16 ounces
Sulphuric Acid . . .	12 fluid ounces
Distilled Water . . .	4 pints
Solution of Chlorine . . .	a sufficiency
Carbonate of Zinc . . .	½ ounce, or a sufficiency

Pour the sulphuric acid previously mixed with the water on the zinc contained in a porcelain basin, and, when effervescence has nearly ceased, aid the action by a gentle heat. Filter the fluid into a gallon bottle, and add gradually with constant agitation the solution of chlorine until the fluid acquires a permanent odour of chlorine. Add now with continued agitation the carbonate of zinc until a brown precipitate appears; let it settle, filter the solution, evaporate till a pellicle forms on the surface, and set aside to crystallise. Dry the crystals by exposure to the air on filtering paper placed on porous tiles. More crystals may be obtained by again evaporating the mother liquor.

Characters and Tests.—In colourless transparent prismatic crystals with a strong metallic styptic taste. Its solution in water gives white precipitates with chloride of barium and sulphide of ammonium. Its watery solution is not tinged purple by tincture of galls; and when acidulated with sulphuric or hydrochloric acid gives no precipitate with sulphuretted hydrogen. After it has been boiled for a few minutes with a little nitric acid, it yields with ammonia a white precipitate which is entirely soluble without colour in an excess of the reagent.

Dose.—1 to 3 grains (as a tonic); 10 to 30 grains (as an emetic).

Preparations.—Zinci Carbonas; Zinci Valerianas.

ZINCI VALERIANAS.

Valerianate of Zinc.

$ZnO,C_{10}H_9O_3$ or $Zn(C_5H_9O_2)_2$.

Take of

Sulphate of Zinc	$5\frac{3}{4}$ ounces
Valerianate of Soda	5 ounces
Distilled Water	a sufficiency

Dissolve the sulphate of zinc and the valerianate of soda, each in two pints of the water; raise both solutions to near the boiling point, mix them, cool, and skim off the crystals which are produced. Evaporate the mother liquor at a heat not exceeding 200°, till it is reduced to four ounces; cool again, remove the crystals which have formed, and add them to those which have been already obtained. Drain the crystals on a paper filter, and wash them with a small quantity of cold distilled water, till the washings give but a very feeble precipitate with chloride of barium. Let them now be again drained, and dried on filtering paper at ordinary temperatures.

Characters and Tests.—In brilliant white pearly tabular crystals, with a feeble odour of valerianic acid, and a metallic taste; scarcely soluble in cold water or in ether, soluble in hot water and alcohol. Heated to redness in an open crucible it leaves a residue which, when dissolved in diluted sulphuric acid, yields with ammonia a precipitate which entirely dissolves in an excess of the reagent, and the resulting solution gives a white precipitate with sulphide of ammonium. Its solution in hot water is not precipitated by chloride of barium. It gives when heated with diluted sulphuric acid a distillate, which when mixed with the solution of acetate of copper, does not immediately affect the transparency of the fluid, but forms after a little time oily drops, which gradually pass into a bluish-white crystalline deposit.

Dose.—1 to 3 grains.

ZINCUM.

Zinc.

Zinc of commerce.

Preparations containing Zinc.

Liquor Zinci Chloridi
Unguentum Zinci
Zinci Acetas
  ,, Carbonas
  ,, Chloridum
Zinci Oxidum
  ,, Sulphas
  ,, Valerianas
Zincum Granulatum

ZINCUM GRANULATUM.

GRANULATED ZINC.

Take of

Zinc of commerce	1 pound

Fuse it in an earthen crucible, heated to a sufficient but not excessive degree in a suitable fire, and pour the fused metal in a thin stream into a vessel containing two gallons of cold water. Remove the granulated zinc from the water, and dry it.

Preparations.—Liquor Zinci Chloridi; Zinci Chloridum; Zinci Sulphas.

ZINGIBER.

GINGER.

The scraped and dried rhizome of Zingiber officinale, *Roscoe, Trans. Linn. Soc., Woodv. Med. Bot.*, plate 11 (*Amomum Zingiber*). From plants cultivated in the West Indies, India, and other countries.

Characters.—Irregular lobed decorticated pieces, three or four inches long, subcompressed, yellowish-white but not chalky on the surface, with a short mealy fracture, hot taste, and agreeable aroma. Powder yellowish-white.

Preparations.

Confectio Opii	1 part in 12, nearly
,, Scammonii . .	1 part in 6, nearly
Infusum Sennæ . . .	60 grains to 1 pint
Pilula Scillæ composita . .	1 part in 6¼
Pulvis Cinnamomi compositus .	1 part in 3
,, Jalapæ compositus .	1 part in 15
,, Opii compositus . .	1 part in 3
,, Rhei compositus . .	1 part in 9
,, Scammonii compositus .	1 part in 8
Syrupus Rhamni	
,, Zingiberis	
Tinctura Zingiberis . . .	2½ ounces to 1 pint
,, ,, fortior .	10 ounces to 1 pint
Vinum Aloes	40 grains to 1 pint

APPENDIX.

APPENDIX.

I.

ARTICLES EMPLOYED IN CHEMICAL TESTING.

ALCOHOL.

Absolute Alcohol.

$C_4H_6O_2$ or $\mathbf{C_2H_6O}$.

Take of

Rectified Spirit	1 pint
Carbonate of Potash	1½ ounce
Slaked Lime	10 ounces

Put the carbonate of potash and spirit into a stoppered bottle and allow them to remain in contact for two days, frequently shaking the bottle. Expose the slaked lime to a red heat in a covered crucible for half an hour, then remove it from the fire, and, when it has cooled, immediately put the lime into a flask or retort, and add to it the spirit from which the denser aqueous solution of carbonate of potash, which will have formed a distinct stratum at the bottom of the bottle, has been carefully and completely separated. Attach a condenser to the apparatus, and allow it to remain without any external application of heat for twenty-four hours; then applying a gentle heat let the spirit distil until that which has passed over shall measure 1½ fluid ounce; reject this, and continue the distillation into a fresh receiver until nothing more passes at a temperature of 200°.

Characters and Tests.—Colourless and free from empyreumatic odour. Specific gravity 0·795. It is entirely volatile by heat, is not rendered turbid when mixed with water, and does not cause anhydrous sulphate of copper to assume a blue colour when left in contact with it.

BENZOL.

$C_{12}H_6$ or $\mathbf{C_6H_6}$.

A colourless volatile liquid, obtained from coal tar. Specific gravity 0·85.

BORACIC ACID.

$BO_3,3HO$ or $\mathbf{H_3BO_3}$.

Tests.—Soluble in alcohol. The solution burns with a green flame.

CHLORIDE OF BARIUM.

$BaCl,2HO$ or $\mathbf{BaCl_2.2H_2O}$.

COPPER FOIL.

Pure metallic Copper, thin and bright.

GOLD, FINE.

Gold, free from metallic impurities.

HYPOSULPHITE OF SODA.

NaO,S_2O_2+5HO or $\mathbf{Na_2H_2S_2O_4.4H_2O}$.

Test.—24·8 grains decolorise 100 measures of the volumetric solution of iodine.

INDIGO.

$C_{16}H_5NO_2$ or $\mathbf{C_8H_5NO}$.

A blue pigment prepared from various species of Indigofera *Linn.*

ISINGLASS.

The swimming bladder or sound of various species of Acipenser *Linn.*, prepared and cut into fine shreds.

LITMUS.

A blue pigment prepared from various species of Roccella, *DC.*

LITMUS PAPER, BLUE.

Unsized white paper steeped in tincture of litmus, and dried by exposure to the air.

LITMUS PAPER, RED.

Unsized white paper steeped in tincture of litmus which has been previously reddened by the addition of a very minute quantity of sulphuric acid, and dried by exposure to the air.

LITMUS TINCTURE.

Take of

Litmus in powder	1 ounce
Proof Spirit	10 fluid ounces

Macerate for two days in a closed vessel, and filter.

OXALIC ACID OF COMMERCE.

OXALIC ACID, PURIFIED.

$2HO,C_4O_6+4HO$ or $\mathbf{H_2C_2O_4.2H_2O}$.

Take of

Oxalic Acid of commerce . .	1 pound
Boiling Distilled Water . .	30 fluid ounces

Dissolve, filter the solution, and set it aside to crystallise. Pour off the liquor, and dry the crystals by exposure to the air on filtering paper placed on porous bricks.

Test.—It is entirely dissipated by a heat below 350°.

OXALATE OF AMMONIA.

$2NH_4O,C_4O_6+2HO$ or $\mathbf{(NH_4)_2C_2O_4.H_2O}$.

Take of

Purified Oxalic Acid . . .	1 ounce
Boiling Distilled Water . . .	8 fluid ounces
Carbonate of Ammonia . . .	a sufficiency

Dissolve the oxalic acid in the water, neutralise the solution at a boiling temperature, filter it while still hot, and set it by that crystals may form as it cools.

PLASTER OF PARIS.

Native sulphate of lime, CaO,SO_3+2HO or $\mathbf{CaSO_4.2H_2O}$, deprived of water by heat.

PLATINUM BLACK.

Platinum in a state of minute division, obtained by adding excess of carbonate of soda and some sugar to solution of perchloride of platinum, and boiling until a black precipitate is formed, which is washed and dried.

PLATINUM FOIL.

RED PRUSSIATE OF POTASH.

$K_3Fe_2C_{12}N_6$ or $\mathbf{K_6Fe_2C_{12}N_{12}}$.

Test.—Its solution in water gives no precipitate with persulphate of iron.

SUBACETATE OF COPPER OF COMMERCE.

Verdigris.

SULPHATE OF COPPER, ANHYDROUS.

CuO,SO_3 or $\mathbf{CuSO_4}$.

Sulphate of copper deprived of its water by a heat of 400°.

Characters.—A yellowish white powder, which becomes blue when moistened with water.

SULPHIDE OF IRON.

FeS or $\mathbf{FeS}$.

Produced by applying the end of a rod of iron, heated to a white heat at a blacksmith's forge, to the end of a roll of sulphur, and allowing the sulphide of iron as it is formed to run into a vessel of water.

SULPHURETTED HYDROGEN.

HS or $\mathbf{H_2S}$.

Take of

Sulphide of Iron	$\frac{1}{2}$ ounce
Water	4 fluid ounces
Sulphuric Acid	a sufficiency

Place the sulphide of iron and the water in a gas-bottle closed with a cork perforated by two holes, through one of which passes air-tight a funnel tube of sufficient length to dip into the water, and through the other a tube for giving exit to the gas. Through the former pour from time to time a little of the acid, so as to develop the sulphuretted hydrogen as it may be required.

TIN, GRANULATED.

Grain tin, reduced to small fragments by fusing and pouring into cold water.

TURMERIC.

The rhizome of Curcuma longa, *Linn.*

TURMERIC PAPER.

Unsized white paper steeped in tincture of turmeric and dried by exposure to the air.

TURMERIC TINCTURE.

Take of

Turmeric, bruised	1 ounce
Rectified Spirit	6 fluid ounces

Macerate for seven days in a closed vessel, and filter.

II.

TEST SOLUTIONS.

SOLUTION OF ACETATE OF COPPER.

Take of

Subacetate of Copper of Commerce, in fine powder	$\frac{1}{2}$ ounce
Acetic Acid	1 fluid ounce
Distilled Water	a sufficiency

Dilute the acid with half a fluid ounce of the water ; digest the subacetate of copper in the mixture at a temperature not exceeding 212° with repeated stirring, and continue the heat until a dry residue is obtained. Digest this in four ounces of boiling distilled water, and by the addition of more of the water make up the solution to five fluid ounces. Filter it.

SOLUTION OF ACETATE OF POTASH.

Take of

Acetate of Potash	½ ounce
Distilled Water	5 fluid ounces

Dissolve and filter.

SOLUTION OF ACETATE OF SODA.

Take of

Acetate of Soda	½ ounce
Distilled Water	5 fluid ounces

Dissolve and filter.

SOLUTION OF ALBUMEN.

Take of

The White of one Egg	
Distilled Water	4 fluid ounces

Mix by trituration in a mortar, and filter through clean tow first moistened with distilled water.

This solution must be recently prepared.

SOLUTION OF AMMONIO-NITRATE OF SILVER.

Take of

Nitrate of Silver, in crystals . .	¼ ounce
Solution of Ammonia . . .	½ fluid ounce, or a sufficiency
Distilled Water	a sufficiency

Dissolve the nitrate of silver in eight fluid ounces of the water, and to the solution add the ammonia until the precipitate first formed is nearly dissolved. Clear the solution by filtration, and then add distilled water, so that the bulk may be ten fluid ounces.

SOLUTION OF AMMONIO-SULPHATE OF COPPER.

Take of

Sulphate of Copper, in crystals	$\frac{1}{2}$ ounce
Solution of Ammonia	a sufficiency
Distilled Water	a sufficiency

Dissolve the sulphate of copper in eight fluid ounces of the water, and to the solution add the ammonia until the precipitate first formed is nearly dissolved. Clear the solution by filtration, and then add distilled water, so that the bulk may be ten fluid ounces.

SOLUTION OF AMMONIO-SULPHATE OF MAGNESIA.

Take of

Sulphate of Magnesia	1 ounce
Chloride of Ammonium	$\frac{1}{2}$ ounce
Solution of Ammonia	$\frac{1}{2}$ fluid ounce
Distilled Water	a sufficiency

Dissolve the sulphate of magnesia and chloride of ammonium in eight fluid ounces of the water, and to the solution add the ammonia, and as much distilled water as will make up the bulk to ten fluid ounces. Filter it.

SOLUTION OF BORACIC ACID.

Take of

Boracic Acid	50 grains
Rectified Spirit	1 fluid ounce

Dissolve and filter.

SOLUTION OF BROMINE.

Take of

Bromine	10 minims
Distilled Water	5 fluid ounces

Place the bromine in a bottle furnished with a well-fitting stopper, pour on the water, and shake several times. Keep it excluded from the light.

SOLUTION OF CARBONATE OF AMMONIA.

Take of

Carbonate of Ammonia, in small pieces	½ ounce
Distilled Water	10 fluid ounces

Dissolve and filter.

SOLUTION OF CHLORIDE OF AMMONIUM.

Take of

Chloride of Ammonium	1 ounce
Distilled Water	10 fluid ounces

Dissolve and filter.

SOLUTION OF CHLORIDE OF BARIUM.

Take of

Chloride of Barium, in crystals	1 ounce
Distilled Water	10 fluid ounces

Dissolve and filter.

SOLUTION OF CHLORIDE OF CALCIUM.

Take of

Chloride of Calcium	1 ounce
Distilled Water	10 fluid ounces

Dissolve and filter.

SOLUTION (SATURATED) OF CHLORIDE OF CALCIUM.

Take of

Chloride of Calcium	4 ounces
Distilled Water	5 fluid ounces

Dissolve and filter.

SOLUTION OF CHLORIDE OF GOLD.

Take of

Fine Gold, reduced by a rolling machine to a thin lamina	60 grains
Nitric Acid	1½ fluid ounce
Hydrochloric Acid	7 fluid ounces
Distilled Water	a sufficiency

Place the gold in a flask with the nitric acid and six fluid ounces of the hydrochloric acid, first mixed with four fluid ounces of the water, and digest until it is dissolved. Add to the solution the additional fluid ounce of hydrochloric acid, evaporate at a heat not exceeding 212° until acid vapours cease to be given off, and dissolve the chloride of gold thus obtained in five fluid ounces of distilled water. The solution should be kept in a stoppered bottle.

SOLUTION OF CHLORIDE OF TIN.

Take of

Granulated Tin	1 ounce
Hydrochloric Acid	3 fluid ounces
Distilled Water	a sufficiency

Dilute the acid in a flask with one fluid ounce of the water, and, having added the tin, apply a moderate heat until gas ceases to be evolved. Add as much of the water as will make up the bulk to five fluid ounces, and transfer the solution, together with the undissolved tin, to a bottle with an accurately ground stopper.

SOLUTION OF GELATINE.

Take of

Isinglass, in shreds	50 grains
Warm Distilled Water	5 fluid ounces

Mix and digest for half an hour on a water-bath with repeated shaking, and filter through clean tow moistened with distilled water.

SOLUTION OF IODATE OF POTASH.

Take of

Iodine	50 grains
Chlorate of Potash	50 grains
Nitric Acid	8 minims
Distilled Water	10½ fluid ounces

Rub the iodine and chlorate of potash together to a fine powder; place the mixture in a Florence flask, and, having poured upon it half an ounce of the water acidulated with the nitric acid, digest at a gentle heat until the colour of the iodine disappears. Boil for one minute; then transfer the contents of the flask to a capsule, and evaporate to perfect dryness at 212°. Finally dissolve the residue in the remaining ten ounces of distilled water; filter the solution, and keep it in a stoppered bottle.

SOLUTION OF IODIDE OF POTASSIUM.

Take of

Iodide of Potassium	1 ounce
Distilled Water	10 fluid ounces

Dissolve and filter.

SOLUTION OF OXALATE OF AMMONIA.

Take of

Oxalate of Ammonia	½ ounce
Warm Distilled Water	1 pint

Dissolve and filter.

SOLUTION OF PERCHLORIDE OF PLATINUM.

Take of

Thin Platinum Foil	¼ ounce
Nitric Acid	a sufficiency
Hydrochloric Acid	a sufficiency
Distilled Water	7 fluid ounces

Mix a fluid ounce of the nitric acid with four fluid ounces of the hydrochloric acid and two fluid ounces of the water; pour the mixture into a small flask containing the platinum, and digest at a gentle heat, adding more of the acids mixed in the same proportion, should this be necessary, until the metal is dissolved. Transfer the solution to a porcelain dish, add to it a fluid drachm of hydrochloric acid, and evaporate on a water-bath, until acid vapours cease to be given off. Let the residue be dissolved in the remaining five ounces of distilled water. Filter and preserve it in a stoppered bottle.

SOLUTION OF PHOSPHATE OF SODA.

Take of

Phosphate of Soda, in crystals .	1 ounce
Distilled Water	10 fluid ounces

Dissolve and filter.

SOLUTION OF RED PRUSSIATE OF POTASH.

Take of

Red Prussiate of Potash, in crystals .	$\frac{1}{4}$ ounce
Distilled Water	5 fluid ounces

Dissolve and filter.

SOLUTION OF SULPHATE OF INDIGO.

Take of

Indigo, dry and in fine powder .	5 grains
Sulphuric Acid	10 fluid ounces

Mix the indigo with a fluid drachm of the sulphuric acid in a small test tube, and apply the heat of a water-bath for an hour. Pour the blue liquid into the remainder of the acid, agitate the mixture, and, when the undissolved indigo has subsided, decant the clear liquid into a stoppered bottle.

SOLUTION OF SULPHATE OF IRON.

Take of

Granulated Sulphate of Iron	10 grains
Boiling Distilled Water	1 fluid ounce

Dissolve and filter.

This solution should be recently prepared.

SOLUTION OF SULPHATE OF LIME.

Take of

Plaster of Paris	$\frac{1}{4}$ ounce
Distilled Water	1 pint

Rub the plaster of Paris in a porcelain mortar for a few minutes with two ounces of the water, introduce the mixture thus obtained into a pint bottle containing the rest of the water, shake well several times, and allow the undissolved sulphate to subside. When this has occurred, filter.

SOLUTION OF SULPHIDE OF AMMONIUM.

Take of

Solution of Ammonia	5 fluid ounces

Put three fluid ounces of the ammonia into a bottle, and conduct into this a stream of sulphuretted hydrogen so long as the gas continues to be absorbed; then add the remainder of the ammonia, and transfer the solution to a green-glass bottle furnished with a well-ground stopper.

SOLUTION OF TARTARIC ACID.

Take of

Tartaric Acid, in crystals	1 ounce
Distilled Water	8 fluid ounces
Rectified Spirit	2 fluid ounces

Dissolve the tartaric acid in the water, add the rectified spirit, and preserve the solution in a stoppered bottle.

SOLUTION OF YELLOW PRUSSIATE OF POTASH.

Take of

Yellow Prussiate of Potash, in crystals .	$\frac{1}{4}$ ounce
Distilled Water	5 fluid ounces

Dissolve and filter.

III.

TEST SOLUTIONS FOR VOLUMETRIC ESTIMATIONS.

The processes for volumetric estimations may be performed either with British or with metrical weights and measures, and the solutions are so arranged that they will be of the same strength, and the same indications will be obtained in using them, whichever system is employed, without the *necessity* of altering any of the figures by which the quantities of the substances tested or of the test solutions required in the process, are expressed.

According to the British system, the quantities of the substances to be tested are expressed in grains by weight, whilst the quantities of the test solutions employed in testing are expressed in grain-measures,—the grain-measure being the volume of a grain of distilled water.

According to the metrical system the quantities of the substances to be tested are expressed in grammes by weight, whilst the quantities of the test solutions employed in testing are expressed in cubic centimetres,—the cubic centimetre being the volume of a gramme of distilled water.

As the cubic centimetre bears the same relation to the gramme that the grain-measure bears to the grain, the one system may be substituted for the other with no difference in the results, excepting that, by the metrical system, all the quantities will be expressed in relation to a weight (the gramme) which is more than fifteen times as great as the British grain.

In practice it will be found convenient in substituting metrical for British weights and measures, to reduce the values of all the numbers to one tenth, by moving the decimal points, and this has been done in the tables appended to the descriptions of the volumetric solutions. The quantities indicated in the Pharmacopœia, which in grains and grain-measures can be conveniently used, would be found inconveniently large if the same numbers of grammes and cubic centimetres were employed.

The following apparatus is required in the preparation and use of these solutions.

For British weights and measures:—

1. A flask which, when filled to a mark on the neck, contains exactly 10,000 grains of distilled water at 60°. The capacity of the flask is therefore 10,000 grain-measures.

2. A graduated cylindrical jar which, when filled to 0, holds 10,000 grains of distilled water, and is divided into 100 equal parts.

3. A burette. A graduated glass tube which, when filled to 0, holds 1,000 grains of distilled water, and is divided into 100 equal parts. Each part therefore corresponds to 10 grain-measures.

For metrical weights and measures:—

1. A glass flask which, when filled to a mark on the neck, contains one litre or 1,000 cubic centimetres.

2. A graduated cylindrical jar which, when filled to 0, contains one litre (1,000 cubic centimetres), and is divided into 100 equal parts.

3. A burette. A graduated tube which, when filled to 0, holds 100 cubic centimetres, and is divided into 100 equal parts.

(One cubic centimetre is the volume of one gramme of distilled water at 4° C.* 1,000 cubic centimetres equal one litre.)

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* It is customary to make the measurements with metrical apparatus at 60° Fahr.

Volumetric solutions, before being used, should be shaken, in order that they may be throughout of uniform strength. They should also be preserved in stoppered bottles. All measurements should be made at 60°.

VOLUMETRIC SOLUTION OF BICHROMATE OF POTASH.

(Bichromate of Potash, $KO,2CrO_3 = 147{\cdot}5$ or $\mathbf{K_2Cr_2O_7} = 295$.)

Take of

Bichromate of Potash . . .	147·5 grains
Distilled Water	a sufficiency

Put the bichromate of potash into the 10,000 grain flask and, having half filled the flask with water, allow the salt to dissolve; then dilute the solution with more water, until it has the exact bulk of 10,000 grain-measures. 1,000 grain-measures of this solution contain 14·75 grains of the bichromate ($\frac{1}{10}$th of $KO,2CrO_3$ or $\frac{1}{20}$th of $\mathbf{K_2Cr_2O_7}$, in grains) and when added to a solution of a protosalt of iron acidulated with hydrochloric acid, are capable of converting 16·8 grains of iron ($\frac{1}{10}$th of 6Fe or $\frac{1}{20}$th of **6Fe**, in grains) from the state of protosalt to that of persalt.

Grammes and cubic centimetres may be employed instead of grains and grain-measures, but for convenience $\frac{1}{10}$th of the numbers should be taken. Thus 14·75 grammes of bichromate of potash should be made to form 1,000 cubic centimetres of solution. 100 cubic centimetres of this solution contain 1·475 grammes of the bichromate ($\frac{1}{100}$th of $KO,2CrO_3$ or $\frac{1}{200}$th of $\mathbf{K_2Cr_2O_7}$, in grammes) and when added to a solution of protosalt of iron acidulated with hydrochloric acid are capable of converting 1·68 grammes of iron ($\frac{1}{100}$th of 6Fe or $\frac{1}{200}$th of **6Fe**, in grammes) from the state of protosalt to that of persalt.

This solution is used for determining the proportion of protoxide of iron in the following preparations. It is known that the whole of the protosalt has been converted into a persalt when a minute drop of the liquid, placed in contact with a drop of the solution of red prussiate of potash on a white plate ceases to strike with it a blue colour.

	British weights and measures.				Metrical weights and measures.		
	Grains weight of Substance.	=	Grain-measures of Vol. Sol.	or	Grams. wt. of Substance.	=	C. C. of Vol. Sol.
Ferri Arsenias .	. 20	=	170	or	2·0	=	17·0
„ Carb. Sacch.	. 20	=	330	or	2·0	=	33·0
„ Oxid. Magn.	. 20	=	83·0	or	2·0	=	8·3
„ Phosphas	. 20	=	250	or	2·0	=	25·0

VOLUMETRIC SOLUTION OF HYPOSULPHITE OF SODA.

(Hyposulphite of Soda crystallised, $NaO,S_2O_2+5HO=124$ or $\mathbf{Na_2H_2S_2O_4.4H_2O}=248$.)

Take of

Hyposulphite of Soda, in crystals .	280 grains
Distilled Water	a sufficiency

Dissolve the hyposulphite of soda in 10,000 grain-measures of water. Fill a burette with this solution and drop it cautiously into 1,000 grain-measures of the volumetric solution of iodine, until the brown colour is just discharged. Note the number of grain-measures (n) required to produce this effect; then put 8,000 grain-measures of the same solution into a graduated jar, and augment this quantity by the addition of distilled water until it amounts to $\frac{8000\times1000}{n}$ grain-measures. If for example, $n=950$ the 8,000 grain-measures of solution should be diluted to the bulk of $\frac{8000\times1000}{950}=8{,}421$ grain-measures. 1,000 grain-measures of this solution contain 24·8 grains of the hyposulphite ($\frac{1}{10}$th of $2(NaO,S_2O_2+5HO)$ or $\frac{1}{10}$th of $\mathbf{Na_2H_2S_2O_4.4H_2O}$, in grains), and therefore correspond to 12·7 grains of iodine ($\frac{1}{10}$th of an equivalent).

Grammes and cubic centimetres may be employed instead of grains and grain-measures, but for convenience $\frac{1}{10}$th of the numbers should be taken. 100 cubic centimetres of this solution contain 2·48 grammes of the hyposulphite ($\frac{1}{100}$th of $2(NaO,S_2O_2+5HO)$ or $\frac{1}{100}$th of $\mathbf{Na_2H_2S_2O_4.4H_2O}$, in grammes), and therefore correspond to 1·27 grains of iodine ($\frac{1}{100}$th of an equivalent).

This solution is used for testing the following substances. In each case, excepting that of iodum, a solution of iodide of potassium and hydrochloric acid are added to the substance, and the amount of iodine so liberated is indicated by this solution.

	British weights and measures.				Metrical weights and measures.		
	Grains weight of Substance.	=	Grain-measures of Vol. Sol.	or	Grams. wt. of Substance.	=	C. C. of Vol. Sol.
Calx Chlorata	10·0	=	850	or	1·00	=	85·0
Iodum	12·7	=	1000	or	1·27	=	100·0
Liq. Calc. Chloratæ	60·0	=	500	or	6·00	=	50·0
,, Chlori	439·0	=	750	or	43·90	=	75·0
,, Sodæ Chloratæ	70·0	=	500	or	7·00	=	50·0

VOLUMETRIC SOLUTION OF IODINE.

(Iodine, I=127 or **I**=127.)

Take of

Iodine	127 grains
Iodide of Potassium	180 grains
Distilled Water	a sufficiency

Put the iodide of potassium and the iodine into the 10,000 grain flask, fill the flask to about two-thirds its bulk with distilled water, gently agitate until solution is complete, and then dilute the solution with more water until it has the exact volume of 10,000 grain-measures. 1,000 grain-measures of this solution contain $\frac{1}{10}$th of an equivalent in grains (12·7 grains) of iodine, and therefore correspond to 1·7 grains of sulphuretted hydrogen, 3·2 grains of sulphurous, and 4·95 grains of arsenious acid.

Grammes and cubic centimetres may be employed instead of grains and grain-measures, but for convenience $\frac{1}{10}$th of the numbers should be taken. 100 cubic centimetres contain 1·27 grammes of iodine and correspond to 0·17 grammes of sulphuretted hydrogen, 0·32 grammes of sulphurous, and 0·495 grammes of arsenious acid.

This solution is used for testing the following substances. It is dropped from the burette into the liquid to be tested until free iodine begins to appear in the solution.

	British weights and measures.				Metrical weights and measures.		
	Grains weight of Substance.	=	Grain-measures of Vol. Sol.	or	Grams. wt. of Substance.	=	C. C. of Vol. Sol.
Acid. Arsenios.	4·0	=	808	or	0·40	=	80.8
„ Sulphurosum	34·7	=	1000	or	3·47	=	100·0
Liquor Arsenicalis	441·5	=	808	or	44·15	=	80·8
„ Arsenici Hydrochloricus	441·5	=	810	or	44·15	=	81·0

VOLUMETRIC SOLUTION OF NITRATE OF SILVER.

(Nitrate of Silver, $AgO,NO_5=170$ or $AgNO_3=170$.)

Take of

Nitrate of Silver	170 grains
Distilled Water	a sufficiency

Put the nitrate of silver into the 10,000 grain flask, and, having half filled the flask with water, allow the salt to dissolve; then dilute the solution with more water until it has the exact bulk of 10,000 grain-measures. The solution should be kept in an opaque stoppered bottle. 1,000 grain-measures of this solution contain $\frac{1}{10}$th of an equivalent in grains of nitrate of silver (or 17·0 grains).

Grammes and cubic centimetres may be employed instead of grains and grain-measures, but for convenience $\frac{1}{10}$th of the numbers should be taken. 100 cubic centimetres contain $\frac{1}{100}$th of an equivalent in grammes of nitrate of silver (or 1·7 grammes).

It is used in testing the following substances:—

	British weights and measures.				Metrical weights and measures.		
	Grains weight of Substance.	=	Grain-measures of Vol. Sol.	or	Grams. wt. of Substance.	=	C. C. of Vol. Sol.
Acid. Hydrocyan.	270	=	1000	or	27·0	=	100·0
Potass. Bromid.	10	=	840	or	1·0	=	84·0
Sodæ Arsenias (dry)	10	=	1613	or	1·0	=	161·3

VOLUMETRIC SOLUTION OF OXALIC ACID.

(Crystallised Oxalic Acid, $2HO,C_4O_6+4HO=126$ or $H_2C_2O_4.2H_2O=126$.)

Take of

Purified Oxalic Acid in crystals, quite dry, but not effloresced . . .	630 grains
Distilled Water	a sufficiency

Put the oxalic acid into the 10,000 grain flask, fill the flask to about two thirds of its bulk with water, allow the acid to dissolve, and then dilute the solution with more water until it has the exact volume of 10,000 grain-measures. 1,000 grain-measures of this solution contain half an equivalent in grains (63 grains) of oxalic acid, and are therefore capable of neutralising one equivalent in grains of an alkali or alkaline carbonate.

Grammes and cubic centimetres may be employed instead of grains and grain-measures, but for convenience $\frac{1}{10}$th of the numbers should be taken. 100 cubic centimetres contain $\frac{1}{20}$th of an equivalent in grammes (6·3 grammes) of oxalic acid, and will neutralise $\frac{1}{10}$th of an equivalent in grammes of an alkali.

The following substances are tested with this solution :—

	British weights and measures.				Metrical weights and measures.		
	Grains weight of Substance.	=	Grain-measures of Vol. Sol.	or	Grams. wt. of Substance.	=	C. C. of Vol. Sol.
Ammoniæ Carb. . .	59·0	=	1000	or	5·90	=	100·0
Borax	191·0	=	1000	or	19·10	=	100·0
Liq. Ammon. . .	85·0	=	500	or	8·50	=	50·0
,, ,, Fort. .	52·3	=	1000	or	5·23	=	100·0
,, Calcis . . .	4380·0	=	200	or	438·00	=	20·0
,, ,, Sacchar. .	460·2	=	254	or	46·02	=	25·4
,, Plumbi Subacet. .	413·3	=	810	or	41·33	=	81·0
,, Potassæ . .	462·9	=	482	or	46·29	=	48·2
,, ,, efferves. .	4380·0	=	150	or	438·0	=	15·0
,, Sodæ . ,, .	458·0	=	470	or	45·80	=	47·0
,, ,, efferves. .	4380·0	=	178	or	438·0	=	17·8
Plumbi Acetas . .	38·0	=	200	or	3·80	=	20·0
Potassa Caustica . .	56·0	=	900	or	5·60	=	90·0

	British weights and measures.				Metrical weights and measures.		
	Grains weight of Substance.	=	Grain-measures of Vol. Sol.	or	Grams. wt. of Substance.	=	C. C. of Vol. Sol.
Potassæ Bicarb.	50·0	=	500	or	5·00	=	50·0
„ Carb.	83·0	=	980	or	8·30	=	98·0
„ Citras	102·0	=	1000	or	10·20	=	100·0
„ Tartras	113·0	=	1000	or	11·30	=	100·0
„ „ Acida	188·0	=	1000	or	18·80	=	100·0
Soda Caustica	40·0	=	900	or	4·00	=	90·0
„ Tartarata	141·0	=	1000	or	14·1	=	100·0
Sodæ Bicarb.	84·0	=	1000	or	8·40	=	100·0
„ Carb.	143·0	=	960	or	14·30	=	96·0

VOLUMETRIC SOLUTION OF SODA.

(Hydrate of Soda, $NaO,HO=40$ or $\mathbf{NaHO}=40$.)

Take of

Solution of Soda	a sufficiency
Distilled Water	a sufficiency

Fill a burette with the solution of soda, and cautiously drop this into 63 grains of purified oxalic acid dissolved in about two ounces of water, until the acid is exactly neutralised as indicated by litmus. Note the number of grain-measures (n) of the solution used, and having then introduced 9,000 grain-measures of the solution of soda into a graduated jar, augment this quantity by the addition of water, until it becomes $\frac{9000\times1000}{n}$ grain-measures. If for example, $n=930$, the 9,000 grain-measures should be augmented to $\frac{9000\times1000}{930}=9,677$ grain-measures. 1,000 grain-measures of this solution contain one equivalent in grains (40 grains) of hydrate of soda, and will therefore neutralise one equivalent in grains of any monobasic acid.

Grammes and cubic centimetres may be employed instead of grains and grain-measures, but for convenience $\frac{1}{10}$th of the numbers should be taken. 100 cubic centimetres contain $\frac{1}{10}$th of an equivalent in grammes (4 grammes) of hydrate of soda, and will neutralise $\frac{1}{10}$th of an equivalent in grammes of an acid.

This solution is used for testing the following substances:—

	British weights and measures.				Metrical weights and measures.		
	Grains weight of Substance.	=	Grain-measures of Vol. Sol.	or	Grams. wt. of Substance.	=	C. C. of Vol. Sol.
Acetum	445·4	=	402	or	44·54	=	40·2
Acid. Acet.	182·0	=	1000	or	18·20	=	100·0
,, ,, Dil.	440·0	=	313	or	44·00	=	31·3
,, ,, Glac.	60·0	=	990	or	6·00	=	99·0
,, Citric.	70·0	=	1000	or	7·00	=	100·0
,, Hydrochl.	114·8	=	1000	or	11·48	=	100·0
,, ,, Dil.	345·0	=	1000	or	34·50	=	100·0
,, Nitric.	90·0	=	1000	or	9·00	=	100·0
,, ,, Dil.	361·3	=	1000	or	36·13	=	100·0
,, Nitro-Hydrochl. Dil.	352·4	=	920	or	35·24	=	92·0
,, Sulph.	50·6	=	1000	or	5·06	=	100·0
,, ,, Arom.	304·2	=	830	or	30·42	=	83·0
,, ,, Dil.	359·0	=	1000	or	35·90	=	100·0
,, Tart.	75·0	=	1000	or	7·50	=	100·0

Symbols and Equivalent Weights of the Elementary Bodies mentioned in the British Pharmacopœia.

ELEMENTARY BODIES.	SYMBOLS AND EQUIVALENTS.	
	Old System.	New System.
Aluminium	Al = 13·75	**Al** = 27·5
Antimony (Stibium)	Sb = 122	**Sb** = 122
Arsenic	As = 75	**As** = 75
Barium	Ba = 68·5	**Ba** = 137
Bismuth	Bi = 210	**Bi** = 210
Boron	B = 11	**B** = 11
Bromine	Br = 80	**Br** = 80
Cadmium	Cd = 56	**Cd** = 112
Calcium	Ca = 20	**Ca** = 40
Carbon	C = 6	**C** = 12
Cerium	Ce = 46	**Ce** = 92
Chlorine	Cl = 35·5	**Cl** = 35·5
Chromium	Cr = 26·25	**Cr** = 52·5
Copper (Cuprum)	Cu = 31·75	**Cu** = 63·5
Gold (Aurum)	Au = 196·5	**Au** = 196·5
Hydrogen	H = 1	**H** = 1
Iodine	I = 127	**I** = 127
Iron (Ferrum)	Fe = 28	**Fe** = 56
Lead (Plumbum)	Pb = 103·5	**Pb** = 207
Lithium	L = 7	**L** = 7
Magnesium	Mg = 12	**Mg** = 24
Manganese	Mn = 27·5	**Mn** = 55
Mercury (Hydrargyrum)	Hg = 100	**Hg** = 200
Nitrogen	N = 14	**N** = 14
Oxygen	O = 8	**O** = 16
Phosphorus	P = 31	**P** = 31
Platinum	Pt = 98·5	**Pt** = 197
Potassium (Kalium)	K = 39	**K** = 39
Silver (Argentum)	Ag = 108	**Ag** = 108
Sodium (Natrium)	Na = 23	**Na** = 23
Sulphur	S = 16	**S** = 32
Tin (Stannum)	Sn = 59	**Sn** = 118
Zinc	Zn = 32·5	**Zn** = 65

WEIGHTS AND MEASURES OF THE BRITISH PHARMACOPŒIA.

WEIGHTS.

1 Grain	gr.		
1 Ounce	oz.	=	437·5 grains
1 Pound	lb. = 16 ounces	=	7000 „

MEASURES OF CAPACITY.

1 Minim	min.		
1 Fluid Drachm	fl. drm.	=	60 minims
1 Fluid Ounce	fl. oz.	=	8 fluid drachms
1 Pint	O.	=	20 fluid ounces
1 Gallon	C.	=	8 pints

MEASURES OF LENGTH.

1 line = $\frac{1}{12}$ inch

1 inch = $\frac{1}{39{\cdot}1393}$ seconds pendulum

12 „ = 1 foot

36 „ = 3 „ = 1 yard

Length of pendulum vibrating seconds of mean time in the latitude of London, in a vacuum at the level of the sea . . . } 39·1393 inches.

RELATION OF MEASURES TO WEIGHTS.

1 Minim is the measure of			0·91	grains of water
1 Fluid Drachm	„		54·68	„
1 Fluid Ounce	„	1 ounce or	437·5	„
1 Pint	„	1·25 pounds or	8750·0	„
1 Gallon	„	10 pounds or	70,000·0	„

WEIGHTS AND MEASURES OF THE METRICAL SYSTEM.

WEIGHTS.

1 Milligramme	=the thousandth part of one grm. or		0·001	grm.
1 Centigramme	=the hundredth	,,	0·01	,,
1 Decigramme	=the tenth	,,	0·1	,,
1 Gramme	=weight of a cubic centimetre of water at 4° C.		1·0	,,
1 Decagramme	=ten grammes	,,	10·0	,,
1 Hectogramme	=one hundred grammes	,,	100·0	,,
1 Kilogramme	=one thousand grammes	,,	1000·0	,,

MEASURES OF CAPACITY.

1 Millilitre =	1	cub. centim. or the mea. of	1	gram.	of water
1 Centilitre=	10	,,	10	,,	,,
1 Decilitre =	100	,,	100	,,	,,
1 Litre =	1000	,,	1000	,,	(1 kilo.)

MEASURES OF LENGTH.

1 Millimetre	=the thousandth part of one metre or		0·001	metre
1 Centimetre	=the hundredth	,,	0 01	,,
1 Decimetre	=the tenth part	,,	0·1	,,
1 Metre	=the ten-millionth part of a quarter of the meridian of the earth.			

RELATION OF THE WEIGHTS OF THE BRITISH PHARMACOPŒIA TO THE METRICAL WEIGHTS.

1 Pound = 453·5925 grammes
1 Ounce = 28·3495 ,,
1 Grain = 0·0648 ,,

RELATION OF MEASURES OF CAPACITY OF THE BRITISH PHARMACOPŒIA TO THE METRICAL MEASURES.

1 Gallon =4·543487 litres
1 Pint =0·567936 ,, or 567·936 cubic centimetres
1 Fluid Ounce =0·028396 ,, 28·396 ,,
1 Fluid Drachm =0·003549 ,, 3·549 ,,
1 Minim =0·000059 ,, 0·059 ,,

RELATION OF THE METRICAL WEIGHTS TO THE WEIGHTS OF THE BRITISH PHARMACOPŒIA.

1 Milligramme = 0·015432 grs.
1 Centigramme = 0·15432 ,,
1 Decigramme = 1·5432 ,,
1 Gramme = 15·432 ,,
1 Kilogramme = 2 lbs. 3 oz. 119·8 grs. or 15432·348 ,,

RELATION OF THE METRICAL MEASURES TO THE MEASURES OF THE BRITISH PHARMACOPŒIA.

1 Millimetre = 0·03937 inches
1 Centimetre = 0·39371 ,,
1 Decimetre = 3·93708 ,,
1 Metre = 39·37079 ,, or 1 yard 3·7 inches
1 Cubic centimetre = 15·432 grain-measures
1 Litre=1 pint 15 oz. 2 drs. 11 m. or 15432·348 grain-measures

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